

SITE CONCEPTUAL MODEL QUARTERLY UPDATE,
THIRD QUARTER 2004,
G&M OIL COMPANY STATION NO. 16,
12559 LAMBERT ROAD, WHITTIER,
LOS ANGELES COUNTY, CALIFORNIA
FILE NO. R-10316

Prepared For:

G&M Oil Company
16868 A Street
Huntington Beach, California 92647

Project No. 600143002

October 15, 2004



Leighton Consulting, Inc.

A LEIGHTON GROUP COMPANY



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To: G&M Oil Company, Inc.
16868 A Street
Huntington Beach, California 92647

Attention: Ms. Jennifer L. Talbert

Subject: Site Conceptual Model Quarterly Update, Third Quarter 2004, G&M Oil
Company Station No. 16, 12559 Lambert Road, Whittier, California. File No.
R-10316

Leighton Consulting, Inc. is pleased to present this Site Conceptual Model Quarterly Update,
Third Quarter 2004 for the subject site.

Should you have any questions, please contact the undersigned at (949) 253-9836 ext. 216.

Respectfully submitted,

LEIGHTON CONSULTING, INC.

Charles Mazowiecki, PE
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UST UNIT _____
CASE NO. 2-10316
DATE 10/13/04
STAFF MC
REPORT TYPE:
SAR _____
WORK PLAN _____
MONITORING _____
OTHER _____
DATE REV'D. 10/28/04
STAFF INITIAL MC

Distribution: (1) Addressee
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1.0 INTRODUCTION

Leighton Consulting, Inc. (Leighton Consulting), on behalf of G&M Oil Company, Inc. (G&M), submits this Site Conceptual Model (SCM) Quarterly Update Report for the Third Quarter 2004 as required by the California Regional Water Quality Control Board, Los Angeles Region (4) (LARWQCB), letter dated January 14, 2002. This report is for the property located at 12599 Lambert Road, Whittier, California (Site). The SCM Report links potential sources of petroleum hydrocarbon contamination to potential receptors, provides a framework for the entire project and serves as a communication tool for regulators, responsible parties, and other stakeholders. This SCM Quarterly Update Report has been prepared in accordance with the State Water Resources Control Board (SWRCB) Guidelines (SWRCB, 2000). A list of references is provided in Appendix A.

1.1 Site Description

The Site is located north of the intersection of Lambert Road and Santa Fe Springs Road in the City of Whittier, California (Figure 1). The Site is generally rectangular in shape, and is comprised of approximately 0.4 acres.

1.1.1 Land Use

The Site has historically been used for retail gasoline sales. No change to this site use is anticipated in the near future. Two canopied fuel dispensing islands are located on the Site adjacent to Lambert Road. The service structure is situated towards the north end of the Site.

The existing underground storage tanks (USTs) are located east of the two dispenser islands and consist of two 8,000-gallon and two 10,000-gallon capacity single walled steel tanks. The approximate location of the USTs is shown on Figure 2.

The chronology of the UST system is documented on the following page.



Date	Event
1965	Installation of the following USTs: 8,000 gallon regular unleaded gasoline, single walled steel 8,000 gallon premium gasoline, single walled steel 10,000 gallon diesel fuel, single walled steel 10,000 gallon regular unleaded gasoline, single walled steel 550 gallon single walled steel waste oil tank
March 1996	USTs upgraded by installing spill and overfill prevention devices.
April 1998	USTs upgraded by installing interior epoxy liners, cathodic protection and striker plates.
May 1999	550-gallon waste oil UST removed.
December 2000	Tanknology conducted tank tightness test on two 8,000-gallon and two 10,000-gallon USTs and product lines. Results of the tests indicated that all USTs and product line passed the pressure tests.
September 2001	ProTech Petroleum Services, Inc. conducted tank tightness test on all onsite USTs. The supreme gasoline UST failed the test. All other USTs passed the test. A repair was conducted and when retested, the supreme gasoline UST passed the test.
July 2003	USTs tightness test, all USTs pass.

Copies of leak detection printout reports and tank tightness tests are included in Appendix B.

1.1.2 Water Use

Groundwater beneath the Site is designated as having present or potential beneficial use for municipal and domestic supply, agricultural supply, industrial service supply and industrial process supply (LARWQCB, 1995).

The release at the Site was first discovered in 1991 during an investigation, which included drilling an exploratory boring to determine the feasibility of installing a vadose zone UST monitoring system. Since the release was first discovered, several investigations have been performed at the Site that included the installation of 16 groundwater monitoring wells, soil and groundwater sampling, and removal of the waste oil UST. The chronology of events at the Site is summarized above and in Table 1.



1.2 Chronology of Events

On February 24 and March 6, 1992, GeoRemediation, Inc. (GRI) advanced 11 soil borings designated B-1 through B-11 to depth of approximately 25 feet below ground surface (bgs). On March 31 and April 16, 1992, GRI installed two groundwater monitoring wells designated as W-1 and W-2. GRI reported that field readings indicated the presence of petroleum hydrocarbons at the groundwater table at approximately 50 feet bgs. Total petroleum hydrocarbons as gasoline (TPHg) were detected in the soil samples collected at concentrations up to 1,200 milligrams per kilogram (mg/kg). Groundwater in monitoring well W-1 contained petroleum hydrocarbons including elevated volatile organic compounds (VOCs). Copies of all available boring logs are included in Appendix C. Details of this investigation are included in GRI's "Summary of Preliminary Investigation and Proposed Additional Subsurface Investigation Report" dated May 12, 1992 (GRI, 1992).

In March 1996, G&M installed spill and overflow prevention devices for the USTs.

On March 21, 1996, Atlas Environmental Engineering, Inc. (ATLAS) collected six soil samples from beneath the dispensers, six from beneath the product lines and one from a stockpile. Soil samples collected beneath the dispensers exhibited TPHg concentrations up to 1,100 mg/kg and total petroleum hydrocarbons as diesel (TPHd) concentrations up to 540 mg/kg. Details of the field work conducted are summarized in their "Transmittal of Laboratory Results-Dispensers, Pipelines and Spoils" report dated April 2, 1996 (ATLAS, 1996).

On September 3, 1997, a single boring was drilled at the Site by ATLAS to a depth of approximately 66 feet bgs and completed as groundwater monitoring well designated W-3. Additionally, well W-2 was re-drilled and replaced due to apparent pre-existing damage. A copy of the available boring log is included in Appendix C. Details of the fieldwork conducted are summarized in the ATLAS "Additional Site Assessment and Workplan" dated October 14, 1997 (ATLAS, 1997).

In October 1997, ATLAS began the quarterly groundwater monitoring program at the Site.

On February 24, 1998, ATLAS advanced four onsite borings to depths between 60 and 65 feet bgs. The borings were completed as groundwater monitoring wells designated W-4 through W-7. Soil samples analyzed for this investigation revealed TPHg, TPHd, benzene and methyl tertiary butyl ether (MTBE) concentrations of 160, 14, 1.24 and 2.65



mg/kg, respectively, in soil boring W-4 at 45 feet bgs (Appendix C). Details of the fieldwork conducted are summarized in ATLAS report "Continued Site Investigation" dated March 31, 1998 (ATLAS, 1998).

During April 1998, G&M upgraded the USTs at the Site to comply with the State and Federal Regulations for upgrading USTs by December 28, 1998. Upgrade activities included installation of interior epoxy liners, cathodic protection, and striker plates.

On January 18, 1999, ATLAS advanced one offsite boring to a depth of approximately 60 feet bgs in the parking lot of the 7-11 store directly across Santa Fe Springs Road. The boring was completed as a groundwater monitoring well designated W-8. A copy of the boring log is included in Appendix C. Details of the fieldwork conducted are summarized in the ATLAS "Groundwater Monitoring Report and Additional Well Installation" report dated April 15, 1999 (ATLAS, 1999a).

On May 12, 1999, Diamond Point Construction, a general contractor for G&M, removed the 550-gallon waste oil UST. ATLAS collected one soil sample from beneath the waste oil tank pit at approximately 7.5 feet bgs and one soil sample from the resulting stockpile. Sampling activities were observed and directed by the Los Angeles County Department of Public Works (LADPW) personnel. Analytical results for the tank pit soil sample revealed less than detectable concentrations of TPHg, benzene, and MTBE. Total recoverable petroleum hydrocarbon (TRPH) concentration of 30 mg/kg was detected in this sample. Details of the fieldwork conducted are summarized in ATLAS "Transmittal of Laboratory Results Waste Oil Tank Removal" report dated June 7, 1999 (ATLAS, 1999b).

On June 8, 2000, ATLAS performed a vapor extraction test (VET) at the Site. The VET consisted of the extraction of soil vapor from two onsite monitoring wells (W-1 and W-3) at an average flow rate of 100 cubic feet per minute (cfm) under a vacuum of approximately 60 inches of water column. During the extraction from wells W-1 and W-3, non-pumping monitoring wells W-2, W-4, and W-7 were monitored for vacuum influence.

Gauge vacuum readings for the observation wells ranged from 0.07 to 4.0 inches of water column. At the end of the VET soil vapor samples were collected from monitoring wells W-1 and W-3 in Tedlar bags for laboratory analysis. Collected soil vapor samples were analyzed for TPHg, benzene, toluene, ethylbenzene and xylenes (BTEX) and MTBE. Soil vapor analysis exhibited TPHg concentrations up to 6,590 microliters per liter ($\mu\text{L/L}$)



or parts per billion by volume, benzene concentrations up to 124 $\mu\text{L/L}$ and MTBE up to 83.7 $\mu\text{L/L}$. ATLAS concluded that based on the results of the VET, the wells were capable of handling flow rates of approximately 80 to 100 cubic feet per minute (cfm) at vacuums ranging from 50 to 60 inches of water column. The average radius of influence is approximately 50 feet. Details of the fieldwork conducted are summarized in ATLAS "Pilot Studies and Treatment Feasibility Evaluation" report dated June 30, 2000 (ATLAS, 2000a).

On December 6, 2000, Tanknology conducted a tank tightness test on all onsite USTs and product lines. Results of the test indicated that all USTs and product lines passed the pressure test. On September 6, 2001, ProTech Petroleum Services, Inc. conducted a tank tightness test on all onsite USTs. The supreme gasoline UST failed the test. All other USTs passed the test. A repair was conducted and when retested, the supreme gasoline UST passed the test. A copy of the tank test is included in Appendix B.

On March 13, 2000, ATLAS advanced one offsite soil boring to an approximate depth of 60 feet bgs and completed the boring as a groundwater monitoring well designated W-9 (Figure 2). A total of nine soil samples were collected and analyzed for TPHg, BTEX, MTBE, ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), tertiary butanol alcohol (TBA), and di-isopropyl ether (DIPE). The analytical results for all soil samples were below laboratory detection limits. A copy of the boring log is included in Appendix C. Details of the fieldwork conducted are summarized in the ATLAS "Transmittal of Boring Log and Laboratory Results for Groundwater Monitoring Well W-9" report dated June 19, 2000 (ATLAS, 2000b).

On August 14 and 15, 2001, Gradient Engineers, Inc. (Gradient) directed the installation of two offsite and one onsite groundwater monitoring wells to approximately 60 feet bgs, designated W-10 through W-12. Detectable levels of extractable fuel hydrocarbons (EFH), TRPH, benzene and MTBE were identified in soil samples collected with maximum concentration of 15 mg/kg, 7.6 mg/kg, 7.0 micrograms per kilogram ($\mu\text{g/kg}$), and 35 $\mu\text{g/kg}$, respectively. Copies of all available boring logs are included in Appendix C. Details of the field work conducted are summarized in Gradient's "Phase II Environmental Site Assessment Report and Third Quarter 2001 Groundwater Monitoring Report" dated September 12, 2001 (Gradient, 2001).

On April 29 and 30, 2003, Gradient personnel directed the advancement of four exploratory soil borings to a depth of approximately 60 feet bg, which were subsequently converted in to four offsite groundwater monitoring wells, designated MW-13 through



MW-16. Copies of detailed boring logs are included in Appendix C. Detectable levels of TPH-d (shown on laboratory results as EFH), benzene, ethylbenzene, DIPE and MTBE were identified in soil samples collected with maximum concentration of 47 mg/kg, 70 µg/kg, 4.5 µg/kg, 21 µg/kg, and 1,500 µg/kg, respectively. Details of the fieldwork conducted are summarized in Gradient's "Site Conceptual Model Quarterly Update and Additional Site Characterization Report, Second Quarter 2003" dated July 14, 2003 (Gradient, 2003b).

Currently 16 groundwater monitoring wells (shown on Figure 2) are being monitored on a quarterly basis. Eight wells, W-1, W-2, W-3, W-4, W-5, W-6, and W-11 are located on the property. Eight wells, W-8, W-9, W-10, W-12, MW-13, MW-14, MW-15, and MW-16 are located outside the property boundary.

1.3 File Review

A Leighton Consulting representative reviewed records at the LARWQCB on June 20, 2003 and Los Angeles County Department of Public Works (LADPW) on July 10, 2003 for the three adjacent sites which have documented releases of petroleum hydrocarbons. Each quarter the GeoTracker Website is reviewed for any new information about each of these sites. The website was visited September 23, 2004 for this quarter. The sites are:

- 1) 7-11 [Case # I-02566], 8438 Santa Fe Springs Road, is located approximately 100 feet southeast of the Site. Records were not found at the LARWQCB. According to records reviewed at LADPW, three 10,000-gallon USTs were removed from the facility in 1992. Three quarters of groundwater monitoring were conducted and groundwater was analyzed for TPHg and BTEX by EPA Methods 8015/8020, respectively. TPHg concentrations ranged from non detect to 180 parts per billion (ppb). Benzene concentrations ranged from non-detect to 1.5 ppb in March 1993. The groundwater samples were never analyzed for MTBE (Groundwater Technology, 1993). Following the three quarters of groundwater monitoring, the Los Angeles County Department of Public Works issued a case closure letter on January 12, 1995 (LADPW, 1995). New information about this facility was not found during the visit for this quarter (GeoTracker, 2004). This facility is up- to cross-gradient of the site with respect to groundwater flow.
- 2) Tune Tech [Case #I-11531], 12612 Lambert Road, is located approximately 150 feet south of the Site. According to a quarterly groundwater monitoring report prepared in September 1998 by PIC Environmental Services, groundwater flow on this facility is



to the west-southwest with a gradient of 0.003 feet/foot. PIC also noted that MTBE has not been detected above 1 ppb in any well during any sampling event. PIC concludes that gasoline contaminants released historically at the Tune Tech facility did not contain MTBE. PIC recommended that the facility be issued closure by the LARWQCB (PIC, 1998). Recent reports were not found within the file. According to the LARWQCB's GeoTracker website, this facility has not been issued closure. In addition, the Geotracker website indicates that remediation in the form of soil excavation occurred in 2000. A report summarizing the remediation was not found in the LARWQCB records. Records reviewed at the LADPW included a closure letter from the LARWQCB dated December 23, 1998, which stated that closure was contingent on the receipt of title information. In addition, records were reviewed from the LARWQCB in relation to reimbursement under the UST Cleanup Fund in 1999 and 2000. This facility is cross-gradient to the subject Site with respect to groundwater flow.

- 3) American Medical Enterprises [Case#1-11530], 12508 Lambert Road, is located approximately 500 feet northwest of the Site. A work plan summarizing a proposed subsurface investigation at the facility in January 1992 was reviewed at the LARWQCB. The report referenced the removal of a former 10,000-gallon UST located at the facility. Benzene was detected beneath the former UST at concentrations of 31.1 mg/kg and 36.4 mg/kg. The consultant recommended a site assessment (Ami Adini & Associates, 1992). Reference to a Site Assessment and Groundwater Investigation in July 1992 was found in the file; however, documentation of the work performed was not found. According to records reviewed at the LADPW, the LARWQCB directed the facility to prepare a preliminary site conceptual model and interim remedial action plan in January 2002. In addition, another letter from the LARWQCB referenced the review of a Comprehensive Site Evaluation Report prepared in June 2002 by Environmental Profiles, Inc. However, this report was not located within the files reviewed by Leighton Consulting at the LARWQCB or LADPW. On April 12, 2004, Leighton Consulting reviewed online GeoTracker data on this facility. According to the information reviewed, five groundwater monitoring reports and two site conceptual model have been prepared for the Site since the file review (GeoTracker, 2004). New information about this facility was not found during the website visit for this quarter (GeoTracker, 2004). The facility is listed in the pollution characterization phase, the released substance is listed as "waste oil, used oil" and has affected groundwater (GeoTracker, 2004). This facility is up- and cross-gradient to the Site with respect to groundwater flow.



2.0 SITE STRATIGRAPHY AND HYDROGEOLOGY

2.1 Geology

The Whittier Area of the Central Basin extends from the Puente Hills south and southwest to the axis of the Santa Fe Springs-Coyote Hills Uplift. The western boundary is an arbitrary line separating the Whittier Area from the Montebello Forebay Area; the eastern boundary is the Orange County line. In the vicinity of the Site, the water-bearing sediments extend to a depth of approximately 1,000 feet bgs and include Recent Alluvium deposits of the Lakewood Formation which overlie the San Pedro Formation.

Recent Alluvium in the Whittier Area consists of a thin finger of sand, gravel, and clay, which extends into the western portion of the area from the Montebello Forebay Area. The sediments are 80 feet thick near the western boundary and thin out to the east. The Recent Alluvium contains a portion of the Bellflower aquiclude and the Gaspar aquifer.

The Lakewood Formation reportedly consists of continental deposits of late Pleistocene age and contains the Gage aquifer and the near surface Bellflower 'aquiclude'. The Bellflower 'aquiclude' consists of clay and sandy clay. The degree to which the groundwater can be transmitted through the Bellflower 'aquiclude' depends on the thickness and composition of this unit. The Gage aquifer is the major water-bearing member of the Lakewood Formation in this area and consists of sand and gravel with interbedded clay which separates the sands and gravel comprising the aquifers. The San Pedro Formation contains the Hollydale, Jefferson, Lynwood, Silverado, and Sunnyside aquifers.

In the Site vicinity, the Gage aquifer is reported to be approximately 25 feet thick and contains fine-grained sand and gravel. Underlying the Gage aquifer in the Site vicinity is an unnamed, relatively impermeable unit that is approximately 70 feet thick. This unit is considered to be an aquiclude. Underlying this aquiclude in the Site vicinity is the Jefferson aquifer that is approximately 35 feet thick overlying another unnamed aquiclude that is approximately 80 feet thick (California Department of Water Resources, 1990).



2.2 Hydrogeology

The Site is located in the La Habra Hydrologic Subarea (a portion of the Anaheim Hydrologic Area) of the Los Angeles Hydrologic Unit (LARWQCB, 1995). The Los Angeles-San Gabriel Hydrologic Unit covers most of Los Angeles County and small areas of southeastern Ventura County. This drainage area totals 1,608 square miles. With most of the population in the Region located in this hydrologic unit, land use is predominantly residential, commercial and industrial; and much of the area is covered with semi-permeable or non-permeable material. The Los Angeles River, San Gabriel River, and Ballona Creek, which are the major drainage systems to this area, drain the coastal watersheds of the Transverse Range. These surface waters also recharge large reserves of groundwater that exist in alluvial aquifers underlying the San Fernando and San Gabriel Valleys and Los Angeles Coastal Plain (LARWQCB, 1995).

Since Leighton Consulting (formerly Gradient Engineers, Inc.) began conducting groundwater monitoring in November 2001, depth to groundwater in the 16 monitoring wells ranged between 41.73 to 52.28 feet bgs. According to the latest groundwater monitoring event conducted at the Site on May 20 and 21, 2004, depth of groundwater ranged from 47.73 to 52.28 feet bgs and the groundwater gradient is 0.0024 feet per foot to the west-northwest. This is similar to previous groundwater monitoring events. Well construction and groundwater elevation data is summarized in Table 2. A groundwater contour map is included in Figure 3.

2.3 Well and Conduit Study

2.3.1 Nearby Production Wells

The area encompassing a one-mile radius from the Site was reviewed for the locations of groundwater production wells. Available well information was obtained from the State of California Department of Water Resources Southern District (DWR), and the LARWQCB. Results of the well search from LARWQCB established the presence of two production wells within a one-mile radius of the Site. The nearest well to the Site, 02S11W29E05S, is located approximately 2,600 feet northwest of the Site (cross gradient with respect to groundwater flow). The nearest production well in the down gradient direction, 02S11W32J04S, is located approximately 4,000 feet south of the Site. Figure 4 depicts the location of the nearest production wells to the subject Site.



2.3.2 Conduit Study - Utilities

Underground utilities can occasionally act as a conduit for the transport of hydrocarbons in the subsurface. A map of known utility locations in the vicinity of the Site is shown on Figure 5.

No major utilities cross the station property, so there is a low probability that onsite releases have encountered major utility trenches. Since November 2001, the shallowest depth to groundwater measured in the eight onsite monitoring wells is 41.73 feet bgs. As a result, there is a low probability that hydrocarbon-affected groundwater has encountered any of the onsite or offsite utility trenches, which usually are located well above this depth.



3.0 INTERIM REMEDIAL ACTION

3.1 Objective

The general objective of the interim remedial action is to effectively mitigate hazards to, minimize threats to, and provide adequate protection of public health, welfare, and the environment. The specific objectives for this Site are to address the pathways through which exposure to contaminants could occur under the current and most probable future land use scenario (retail gasoline sales). Exposure pathways that may represent a health risk above acceptable levels under the current and most probable future land use scenario were used to identify the following objective for the Site:

- Prevent the migration of contaminants from soils and groundwater to the nearby production wells.

On February 13, 2003, Leighton Consulting suspended oxygen release compound (ORC[®]) filter socks in onsite monitoring wells W-1 and W-4, which have historically contained free product. Leighton Consulting periodically monitored the effect of the ORC[®] filter socks on reducing the liquid phase hydrocarbons in the wells and increasing natural attenuation. The ORC[®] filter socks were installed in accordance with the procedures established by Regenesis, the manufacturer of the ORC[®] socks. Leighton Consulting discontinued the quarterly installation of the ORC[®] socks during the First Quarter of 2004. A copy of the Uniform Hazardous Waste Manifest for the removal of the drum containing the ORC[®] socks is in Appendix F.

As required by the LARWQCB in their letter dated July 12, 2002, the natural attenuation parameters of groundwater are monitored to determine if natural attenuation of groundwater is occurring at the Site outside of the free product areas and areas where high concentrations of dissolved gasoline constituents persist and are considered to be toxic to indigenous populations of degrading microorganisms. The following parameters are measured during the quarterly groundwater sampling and analysis activities: pH, dissolved oxygen (DO) oxidation/reduction potential (ORP, also called redox potential), sulfate, nitrate, ferrous iron (Fe^{2+}) and dissolved methane inside and outside (background) of the plume.



3.2 Current Status of Interim Remedial Action Activities

During this monitoring event, hydrocarbon product was observed in onsite groundwater monitoring wells W-1 and W-4. The free product was removed prior to purging and sampling.

Fourth Quarter 2003 marked the completion of the one-year Interim Remedial Action Plan, which included the quarterly installation of ORC[®] filter socks. The last set of filter socks was removed on March 9, 2004.

In June 2004, Leighton Consulting submitted a Feasibility Study (FS) describing future remedial activities (Leighton Consulting, 2004b).



4.0 REPAIR OF MONITORING WELLS

4.1 Field Activities

4.1.1 Well Box Repair

On August 27, 2003, Leighton Consulting directed the removal and replacement of old surface seals on W-1 and W-4. In addition, the well box and concrete surrounding monitoring wells W-1 and W-4 were removed and transported offsite for disposal. A 12-inch Emco Wheaton well box was installed at each of these monitoring wells and concrete was replaced around the new well boxes. Both well boxes were placed slightly above grade to direct any water run-off away from the well. BC2 Environmental Corporation conducted both well box removals and installations using an air knife and vacuum rig.

4.1.2 Well Box Maintenance

On September 5, 2003, Leighton Consulting conducted the maintenance on monitoring wells W-3, W-5 through W-9, and W-12. The maintenance of the well boxes included cleaning, re-tapping bolt holes on well box rings, replacing bolts, cleaning outer edge of the well box, re-gluing seal rings into place, wire brushing the well box lid, painting the lids white, and cleaning out the bottom of the well box.



5.0 REMEDIATION ACTIVITIES

5.1 Source Removal Activities

On May 12, 1999, the 550-gallon waste oil UST was removed from the Site. The waste oil UST was not replaced at the Site. Based on the files reviewed by Leighton Consulting, it appears that no soil removal activities have taken place at the Site.

5.2 Other Remediation Activities

To date, remedial activities performed at the Site include the removal of the waste oil UST and associated piping system. During the waste oil UST removal activities, ATLAS collected two soil samples; one from the bottom of the waste oil UST at approximately 7.5 feet bgs, and one from the resulting stockpile. Tank pit sample WT-7.5 exhibited concentrations for TPHg, BTEX, and MTBE of less than laboratory detection limits. Stockpile sample SP1 revealed a TRPH concentration of 30 mg/kg (ATLAS, 1999b).

On June 8, 2000, a Vapor Extraction Test (VET) was conducted by ATLAS. During the VET, soil vapor was extracted from monitoring wells W-1 and W-3, and vacuum influence was measured in the non-pumping monitoring wells W-2, W-4 and W-7. Based on the data obtained by ATLAS during the VET a radius of vacuum influence was estimated to be between 48 and 78 feet for monitoring wells W-1 and W-3, respectively. Details of the work conducted by ATLAS is presented in their "Pilot Studies and Feasibility Evaluation" report dated June 30, 2000 (ATLAS, 2000a).

Free product removal was initiated at the Site by ATLAS in approximately the 4th quarter 1997, initially on a weekly basis using hand bailing techniques. A vacuum truck was utilized from approximately April to September 2000 and subsequently the frequency of free product removal was decreased to bi-weekly hand bailing removal through November 2001. As of December 28, 2001, ATLAS had removed approximately 6,834-gallons of free product and groundwater, of which approximately 69 gallons were free product. Details of the field data collected are included in the ATLAS "Groundwater Monitoring Report 4th Quarter 2000" dated December 28, 2000 (ATLAS, 2000c). Free product removal activities ended in the 4th quarter 2001.



6.0 EXTENT OF TPH IMPACTS

6.1 Soil

The mass of the release is not known. It is estimated that the release likely occurred over an extended period of time from some point prior to the discovery in 1991 until the piping and USTs were upgraded in 1996 and 1998.

A rough estimate of the mass of TPHg impacted soil was calculated using the laboratory data from soil samples collected from the installation of monitoring wells W-1 and W-2 advanced by GRI on April 1992, W-4, W-5 and W-6 advanced by ATLAS during February 1998, and the soil data from W-11 advanced by Gradient in August 2001.

Based on laboratory data, the hydrocarbon affected soil extends from approximately 40 to 60 feet bgs in an area 85 feet long by 30 feet wide, extending from the tank cavity area to the south. The total volume of hydrocarbon affected soil is approximately 1,889 yd³ of soil.

$$\text{Volume} = \text{Length} * \text{Width} * \text{Height} = (85 \text{ ft}) * (30 \text{ ft}) * (20 \text{ ft}) = 51,000 \text{ ft}^3 (1,889 \text{ yd}^3)$$

The estimated mass of contamination was calculated by first estimating the mass of impacted soil using 116 lb/ft³ for a typical weight of silty sand and multiplying the mass by the average concentration of TPHg detected in the soil, assumed to be 820 mg/kg:

$$\begin{aligned} \text{Estimated mass of soil} &= \text{Soil Volume} * \text{Unit Weight of Soil} = \\ 51,000 \text{ ft}^3 * 116 \text{ lb/ft}^3 * 0.454 \text{ kg/lb} &= 2,685,864 \text{ kg soil} \end{aligned}$$

$$\begin{aligned} \text{Estimated mass of TPHg} &= 2,685,864 \text{ kg soil} * 820 \text{ mg TPHg/kg soil} * \text{kg}/10^6 \text{ mg} = \\ 2,202 \text{ kg TPHg} &(4,455 \text{ lb}) \end{aligned}$$

The estimated area of TPHg impacted soil is shown on Figure 6. Cross sections A-A' and B-B' showing the lithology, soil sampling results, and approximate vertical and lateral extent of the petroleum hydrocarbon impacted soil are included as Figures 7 and 8, respectively. Soil analytical data is summarized in Table 3.



6.2 Groundwater

This is the twenty-seventh groundwater monitoring event conducted at the Site since October 1997. Tables 4, 5, and 6 summarize the groundwater data collected to date. Plots of the concentrations of TPHg (VFH), benzene, and MTBE over time for wells W-1 through W-16 are presented in Figures 9 through 24. For graphing purposes, results reported as non-detect are graphed/tabulated assuming a concentration equal to the detection limit. The groundwater surface elevation since November 2001 is also plotted for each well. Iso concentration contours for VFHs, benzene, and MTBE detected in the groundwater samples collected during this monitoring event are shown on Figures 25 through 27. Figures 28 through 30 depict the lateral extent of these compounds at several points in time.

The highest concentration of VFHs reported in groundwater samples collected during the 27 monitoring events is 70,300 micrograms per liter ($\mu\text{g/L}$) (Monitoring Well W-3, December 1998). During this event, the highest concentration of VFHs, 18,000 $\mu\text{g/L}$, was in the groundwater sample collected at W-2. The VFH plume extends from the tank area downgradient to offsite well W-9 approximately 80 feet west of the Site and to W-8 approximately 140 feet southeast (up- and crossgradient) of the Site. Previously, detectable concentrations have been reported in upgradient offsite wells W-10 and MW-15 and onsite well W-11.

EFHs have been detected in groundwater samples collected from onsite monitoring wells at a maximum concentration of 34 milligrams per liter (mg/L) (Monitoring Well W-5, February 2003). The maximum concentration of EFHs, 2.3 mg/L , observed during this event was detected in the sample collected from W-1.

Benzene has been detected in the groundwater samples collected to date at a maximum concentration of 32,800 $\mu\text{g/L}$ (Monitoring Well W-3, May 1998). During this event, the highest concentration of benzene, 4,900 $\mu\text{g/L}$, was in the groundwater sample collected from W-2. The benzene plume extends approximately 80 feet west (downgradient) from the tank area to offsite well W-9 and approximately 100 feet towards W-11. Benzene was not detected in the sample collected from W-11 during this monitoring event.

MTBE has been detected in at least one sample collected to date from each of the 16 monitoring wells. The maximum concentration reported is 39,000 $\mu\text{g/L}$ (Monitoring Well W-1, November 2001). During this even, the highest concentration of MTBE, 11,000 $\mu\text{g/L}$, was in the groundwater sample collected from W-2. MTBE was not



detected in the samples taken from wells W-8, W-11 and W-12 during this monitoring event. The MTBE plume encompasses W-10, MW-15, and MW-16 to the east and MW-13 and MW-14 to the west up-gradient wells. The concentrations observed during this event at W-10 (1,200 $\mu\text{g/L}$) and MW-16 (590 $\mu\text{g/L}$) are greater than the concentration at W-7 (170 $\mu\text{g/L}$).

The maximum reported concentrations of DIPE and TBA in the groundwater samples collected to date are 280 $\mu\text{g/L}$ (Monitoring Well W-8, August 2002) and 1,100 $\mu\text{g/L}$ (Monitoring Well W-1, December 2003), respectively. During this event, DIPE was only found in the sample collected from W-8 at a concentration of 120 $\mu\text{g/L}$; TBA was found in the samples collected from W-4 and W-5 at concentrations of 690 $\mu\text{g/L}$ and 210 $\mu\text{g/L}$, respectively.

6.3 Estimated Plume Travel Time

Once each year, in the Second Quarter Conceptual Model Update, Leighton Consulting uses the Advection-Dispersion Non-Steady State Analytical Model spreadsheet developed by the LARWQCB to estimate the MTBE plume travel time. For the second quarter of 2004, MTBE analytical data from well W-9 were used as input parameters to the model. A conservative assumption of 2,600 feet (X) and 0 feet (Y) was used for the distance to the nearest drinking water well. The nearest drinking water well 02S11W29E05S is actually located cross-gradient to the Site. The nearest downgradient well is located 4,000 feet downgradient of the Site.

The parameters calibrated and the results of the non-steady state analytical model spreadsheet are shown below. Details of the input parameters, analytical data and model results are given in Appendix G.

Plume Parameters Calibrated from Non-Steady State Spreadsheet Analytical Model	2003	2004
X Axis dispersivity, α_L (feet)	1.0	0.18
Groundwater velocity, μ (feet/day)	0.1	0.1
Mass discharged per Unit depth, $C_0 Q d t$ (grams/foot)	638	110
Elapsed time from initial release to first sampling, T_1 (days)	1,000	1,090

?



Model Calculated Values	2003	2004
Time when plume reaches its peak in drinking water well (days)	26,000	26,000
Time when plume first reaches 5 µg/L in drinking water well (days)	24,000	25,500
Maximum concentration in drinking water well (µg/L)	1,200.43	934.13
Time remaining for plume to reach 5 µg/L in drinking water well (years)	37.8	64.6

6.4 Statistical Analysis of the Plume

A review of the data shows that the plume appears to have reached its maximum areal extent in December 2001. At that time, wells W-1, W-2, W-3, W-4, W-5, W-6, W-9 and W-11 were impacted by benzene as shown on Figure 29. On the figure, the benzene concentrations appear to decrease with time. The graphs of concentration versus time, Figures 9 through 24, also indicate a decrease with time. A seasonal variation cannot be discerned on the graphs.

A statistical analysis, the Mann-Kendall test, was used to determine if the observed decreases were significant. In this test, the data are arranged in chronological order. The later value is then compared to the earlier value. The comparison is assigned a value of -1 if the later value is less than the earlier value, 0 if the two are the same and +1 if the later value is the higher of the two. The results of the comparisons are added and the value of this sum is an indication of whether a trend exists.

Appendix H contains the calculations for the Mann-Kendall test for VFHs, benzene and MTBE. Due to the presence of free product noted in W-1 during recent monitoring events, that well was not included in these analyses. The results from the most recent 10 events were used whenever possible. In some instances, fewer than 10 events were used.

VFHs

The data from seven wells, W-2, W-3, W-4, W-5, W-7, W-8, and W-9, were tested to determine if a trend could be shown for VFHs. An analysis of the data from the other wells would not be meaningful due to the number of times that VFHs were not detected in the samples collected from these wells. The analysis showed that VFHs concentrations



are decreasing at W-3, W-4, and W-9. No conclusion could be drawn for W-2, W-5, W-7, and W-8.

Benzene

The data from five wells (W-2, W-3, W-4, W-5, and W-9) were tested to determine if a trend could be shown for benzene. The other wells were not analyzed due to the frequency of not detected in the samples, except for W-1 mentioned above. Benzene concentrations are increasing at W-2 and W-5. The increases at W-2 are possibly related to the proximity of W-1. Concentrations of benzene at W-3, W-4, and W-9 are decreasing.

MTBE

The data from 11 wells, W-2, W-3, W-4, W-5, W-7, W-9, W-10, MW-13, MW-14, MW-15, AND MW-16 were tested to determine if a trend could be shown for MTBE. The other wells were not analyzed due to the frequency of not detected in the samples except for W-1 mentioned above. At this time, no conclusions could be drawn for W-2, W-4, W-9, MW-13, WM-14, MW-15, and MW-16. Concentrations of MTBE are increasing at W-5 and W-10 and decreasing at W-3 and W-17.

Figures 31 and 32 are plots of the logarithm of the concentration of benzene and MTBE detected in the groundwater samples collected from W-1, W-2, and W-9 versus time starting with November 2001. W-1 was selected because free product was observed in this well during this sampling event. W-2 was selected because it is close to W-1. W-9 was selected because it is almost directly down-gradient of the Site and the record extends back to 2001. Benzene was selected because it is the compound of highest concentrations in the VFHs, and MTBE was selected because it is the oxygenate occurring in the highest concentration. The straight-line approximation of each curve and the equation of this line are also shown on the figures.

6.5 Potential Receptors

The current and most probable future land use for the Site is as a commercial gas station. The potential receptors of contamination from impacted groundwater at the Site include groundwater production wells 02S11W29E05S located approximately 2,600 feet northwest of the Site (cross gradient) and 02S11W32J04S located approximately 4,000



feet south of the Site (downgradient). The potential receptors of contamination from impacted soil include potential future Site construction/utility workers who might encounter soil during excavation and/or trenching activities.

As depicted on Figure 31, benzene concentrations are decreasing at W-1 and W-9 and increasing at W-2. The increase at W-2 is probably attributable to migration from W-1. The trends at W-2 and W-9 agree with the Mann-Kendall analysis, which wasn't performed on the data from W-1.

As shown on Figure 32, there appears to be a downward trend in MTBE concentrations at W-1 and W-9 and an upward trend in W-2. The Mann-Kendall analysis, which wasn't performed on the data from W-1, was inconclusive for the data from W-2 and W-9.



7.0 CURRENT GROUNDWATER MONITORING EVENT RESULTS

7.1 Monitoring and Sampling Field Activities

On July 27 and 28, 2004, a Leighton Consulting environmental technician measured the depth to groundwater and, if present, depth to product and product thickness in each of the 16 groundwater monitoring wells, prior to purging and collecting groundwater samples. Hydrocarbon product was observed in groundwater monitoring wells W-1 and W-4 at thicknesses of 0.02 feet and 0.01 feet, respectively.

Groundwater samples were collected from all 16 wells in the monitoring program. Pre-purge samples were also collected from wells W-1 through W-5, W-8, W-9, and W-12. Prior to collecting a groundwater sample, the wells were purged of three well volumes of groundwater by using a vacuum truck. Field instruments were used to measure the temperature, pH, DO, ORP, and specific conductivity of the purged well water to verify that stabilization had occurred. The data were recorded on the groundwater sampling/purge logs (Appendix D).

Groundwater samples were collected using separate disposable polypropylene bailers. The samples were placed in laboratory-supplied 40 ml vials with appropriate preservative, 1-liter amber bottles, and 500 ml plastic bottles, and placed in an ice-cooled chest prior to delivery under completed chain-of-custody to Del Mar Analytical in Irvine, California for chemical analysis. Del Mar is a State of California certified laboratory.

A groundwater elevation contour map from the water level measurements recorded during this monitoring event is presented on Figure 3. Groundwater elevation measurements since November, 2001 for wells W-1 and W-2 are given in Table 2. The data for wells MW-13 through MW-16 starting with the date they were installed, May 12, 2003, are also in Table 2. The data in Table 2 is presented as a graph on Figure 33.

As shown on Figure 33, well W-7 is the only well to show an increase in the groundwater surface elevation when compared to the previous monitoring event. The increase resulted in W-7 having the highest groundwater surface of all of the wells. The groundwater surface contours depicted on Figure 3 show the groundwater flowing away from the localized high elevation at W-7 in two directions, one to the east with a gradient of 0.0059 and the other to the southwest with a gradient of 0.0093.



7.2 Laboratory Analysis

Groundwater samples were analyzed for VFHs and EFHs by EPA Method 8015, BTEX, DIPE, ETBE, TAME, MTBE and TBA by EPA Method 8260B. In addition, groundwater from Monitoring Wells W-1 through W-5, W-8, W-9, and W-12 were analyzed for sulfate, nitrate, ferrous iron, and dissolved methane, by EPA Methods 300.0, 6010B, and GC-FID.

7.3 Laboratory Results

Based on the laboratory analysis for the groundwater samples collected during this round of groundwater sampling, groundwater is impacted with VFHs, EFHs, benzene, MTBE, TBA, and DIPE with maximum concentrations as follows:

<u>Contaminant</u>	<u>Maximum Concentration</u>	<u>Sample ID</u>
VFHs	18,000 µg/l	W-2
EFHs	2.3 mg/l	W-1
Benzene	4,900 µg/l	W-2
Ethylbenzene	660 µg/l	W-2
Toluene	220 µg/l	W-2
Xylenes	940 µg/l	W-2
MTBE	11,000 µg/l	W-2
TBA	690 µg/l	W-4

Note: TBA was not detected in W-2 and W-9 at a detection limit of 1,000 µg/l.

A copy of the laboratory reports and chain of custody records for this monitoring event are included in Appendix E. Iso-concentration contours for VFHs, benzene and MTBE detected in the groundwater samples collected during this groundwater monitoring event are presented as Figures 25 through 27. Groundwater analytical data is summarized in Table 4. Groundwater physical parameters and chemical properties are summarized in Table 5. Historical analytical results for groundwater are summarized in Table 6.

Microorganisms indigenous to the subsurface environment can degrade the components of gasoline, kerosene, diesel and jet fuel. During biodegradation, microorganisms metabolize available nutrients into energy and cell reproduction by facilitating the transfer of electrons from donors to acceptors. The electron donor is oxidized and the electron



acceptor is reduced. Electron acceptors are elements or compounds in oxidized states. Typically, these are dissolved oxygen (DO), nitrate, iron (Fe^{+3}) sulfate and carbon dioxide.

When biodegradation occurs, changes in groundwater chemistry can be observed. In an aerobic process, oxygen, the electron acceptor is reduced to water and DO concentrations decrease. Although the denitrification process yields slightly more energy than aerobic respiration, DO concentrations greater than approximately 0.5 mg/l are toxic to the obligate anaerobic bacteria. After oxygen has been removed, the other electron acceptors are utilized in order of preference: nitrate, Fe^{+3} , sulfate and carbon dioxide, assuming the acceptor is present. The order of preference is dictated by the amount of energy available to the microorganisms from the reaction.

Beginning with the First Quarter of 2003 monitoring event, the natural attenuation parameters have been monitored at eight wells, W-1, W-2, W-3, W-4, W-5, W-8, W-9 and W-12. The results of this monitoring are presented in Table 5, which also includes the field measurements of pH, DO, ORP, and specific conductivity. W-8 is located up-gradient from the Site and W-12 is cross-gradient from the Site. The other six wells are considered to be within the hydrocarbon plume. Since the first quarter of 2002, free product has been observed intermittently in W-1, W-4 and W-5. Free product was observed in W-1 during the three monitoring events of 2004 and in W-4 during this monitoring event. Free product was last detected in W-5 in May 2003.

7.4.1 Oxidation/Reduction Potential

ORP provides a rough indication of which reaction may be occurring at a particular site. The ORPs in milli-volts (mv) for several electron acceptors at a pH of 7 and a temperature of 25° C are:

Oxygen	+ 820 mv
Nitrate	+ 740 mv
Iron (Fe^{+3})	- 50 mv
Sulfate	- 220 mv
Carbon Dioxide	- 240 mv

During this monitoring event, ORP ranged from -101 mv at W-1 to +220 mv at W-12. Figure 34 shows the plot of the isopotentials of the ORP.



Within the observed range of the ORP, dissolved oxygen and nitrates are probably not serving as electron acceptors, leaving Fe^{+3} , sulfates, and carbon dioxide as the probably acceptors.

7.4.2 Dissolved Oxygen

The solubility of oxygen in water is affected by several factors, such as temperature of the water, altitude and dissolved solids. Within the context of this investigation, temperature is perhaps the factor having the most impact. The solubility decreases with rising temperature. Dissolved solids and altitude also affect the solubility of oxygen. At sea level and a temperature of 68°F, the solubility of oxygen in water is 9.2 milligrams per liter (mg/l). A D.O. concentration of 0.5 mg/l is generally thought to be the minimum that will sustain aerobic activity. For the July 2004 sampling event, D.O. concentrations ranged from 0.17 mg/l at W-5 to 3.91 mg/l at MW-14. Figure 35 shows the plot of the dissolved oxygen isoconcentrations for the monitoring event.

The wells with concentrations of dissolved oxygen of 2 mg/l or greater are W-8, W-10, W-11, MW-14, and MW-15. These wells are outside or just at the edge of the plumes shown on Figures 25, 26, and 27.

7.4.3 Nitrates

After oxygen has been depleted, nitrates are usually the next electron acceptor utilized in biological activity. Nitrates were observed in two wells, W-8 and W-12 at concentrations of 1.2 mg/l and 6.7mg/l, respectively. W-12 is beyond the extent of the plumes. Figure 36 shows the plot of the nitrate concentrations observed during this monitoring event.

7.4.4 Ferrous Iron

During this monitoring event, Fe^{+2} was not detected at wells W-8, W-9, or W-12. The highest concentration was detected in the sample collected at W-3, 9.1 mg/l. If Fe^{+3} is serving as an electron acceptor, the concentration of Fe^{+2} can be expected to increase as Fe^{+3} is reduced to Fe^{+2} . Well W-3 is within the plumes and the ORP corresponds to that of the reaction where Fe^{+3} is the electron acceptor. Well W-9 is at the edge of the VFHs plume and within the MTBE plume. Figure 37 shows the plot of the Fe^{+2} isoconcentrations in the groundwater.



7.4.5 Sulfates

During this monitoring event, sulfate concentrations ranged from 0.82 mg/l at W-3 to 1,800 mg/l at W-8. Figure 38 shows the plot of the sulfate concentrations in the groundwater. Well W-8 has had the highest concentration of sulfates since monitoring of this parameter began in the first quarter of 2003. This well is cross-gradient of the site and may represent the background concentration of sulfates. At that concentration, the sulfates would serve as a significant electron acceptor. The lower concentrations of sulfates are to be found at the interior of the plume with concentrations increasing outward towards the edge of the plume.

7.4.6 Methane

During this monitoring event, dissolved methane concentrations ranged from not detected at W-5, W-8, and W-12 to 0.99 mg/l at W-1. Figure 39 shows the plot of dissolved methane concentrations in groundwater. The concentrations at W-1 and W-2 may indicate that carbon dioxide is serving as an electron acceptor at the interior of the plume.

7.5 Disposal Activities

On July 26 and 27, 2004, approximately 150 gallons of purged groundwater were transported offsite by Island Environmental Services for treatment/disposal. Copies of the non-hazardous waste manifests are included in Appendix F.



8.0 WORK PLAN FOR FUTURE ASSESSMENT

On January 14, 2002, the LARWQCB sent correspondence which required a SCM and an Interim Remedial Action Plan for the Site. In response to this directive, Leighton Consulting (Gradient) submitted a Preliminary SCM dated May 15, 2002 which included a Proposed Interim Remedial Action Plan and Proposed Additional Offsite Assessment Activities. On July 12, 2002 the LARWQCB sent correspondence summarizing and approving the work proposed within Leighton Consulting's Preliminary SCM, with conditions. The assessment outlined in the Preliminary SCM was completed second quarter 2002. Fourth Quarter 2003 marked the completion of the one-year duration of the Interim Remedial Action, which included the quarterly installation of ORC[®] socks.

Leighton Consulting has submitted a Feasibility Study recommending enhanced air bioremediation as the process to be employed to remediate the site. Upon approval of the Feasibility Study, Leighton Consulting will proceed with the design and installation of an enhanced air bioremediation system.



9.0 SUMMARY

A release of gasoline has impacted soil and groundwater at the Site. Chemicals of concern include benzene and MTBE. Hydrocarbon affected soil extends to approximately 40 to 60 feet bgs in an area 85 feet long by 30 feet wide, extending from the tank cavity area to the south. The total volume of hydrocarbon affected soil is approximately 1,889 yd³ of soil.

The lateral extent of groundwater contamination is not clearly defined. MTBE has been detected in groundwater samples collected from offsite wells W-10, MW-13, MW-14, MW-15, and MW-16. W-10 and MW-15 are each approximately 40 feet upgradient of the Site and MW-16 is approximately 60 feet upgradient. MW-13 and MW-14 are located downgradient of the site at the approximate distances of 40 feet and 150 feet, respectively. The vertical migration of contaminants in groundwater has not been assessed. Additional assessment may be recommended to obtain design data to implement the recommendations of the Feasibility Study.



TABLE 1: CHRONOLOGY OF EVENTS
G&M Oil Company Station #16

Date	Event
1965	
January 01	Installation of five USTs: 1- 8,000-gallon regular gasoline, 1- 10,000-gallon regular gasoline, 1- 8,000-gallon premium gasoline, 1- 10,000-gallon diesel and 1-550-gallon waste oil. All gasoline and the diesel USTs were reported to be single walled steel. The waste oil UST was reported as a single walled steel tank.
1991	
June 19	FIELD WORK: GeoRemediation, Inc. (GRI) advanced one hand auger boring immediately west of the USTs to a depth of 6 feet below ground surface (bgs) for the purpose of determining the feasibility of installing a vadose monitoring system near the existing underground storage tanks (USTs). Strong petroleum hydrocarbon odors were detected in the soil cuttings generated. GRI reported field organic vapor readings exceeding 500 ppmv.
1992	
February 21	GRI submitted a proposal to G&M Oil to conduct a preliminary site assessment to define the horizontal limits of the contamination zone discovered during the June 19, 1991 soil investigation.
February 24 & 25 and March 5 & 6	FIELD WORK: GRI advanced 11 soil borings at the site to maximum depths of 25 feet bgs.
March 31 & April 16	FIELD WORK: GRI installed two groundwater monitoring wells designated as W-1 and W-2.
May 12	REPORT: GRI submits a report summarizing results of soil and groundwater investigation conducted on March 31 and April 16, 1992. GRI reported that field readings indicated the presence of petroleum hydrocarbons in the groundwater table about 50 feet bgs. Total petroleum hydrocarbons (TPH) were detected in soil at concentrations up to 1,200 milligrams per kilogram (mg/kg). Groundwater in W-1 contained petroleum hydrocarbons including elevated volatile organic compounds. GRI indicated that no groundwater sample was collected in W-2 as further investigation would be required in the future.
1995	
March 27	REPORT: Atlas Environmental Engineering, Inc. (ATLAS) Prepared and submitted a site investigation report to the DPW. Based on the findings of the site assessment significant soil and groundwater contamination was encountered at the site.
April 24	AGENCY CORRESPONDENCE: The County of Los Angeles Department of Public Works (DPW) submitted a letter to G&M Oil regarding their Hazardous Materials UST Permit (HMUSP) and requested that G&M Oil prepared and submit a proposal for a Tank Monitoring Program (TMP) by May 29, 1995.
May 2	AGENCY CORRESPONDENCE: G&M Oil submitted a letter to the DPW indicating that their TMP is daily inventory reconciliation and annual tank testing and line testing.
June 26	Review of DPW UST Permit: Permits show that five USTs were permitted: 1- 8,000-gallon regular gasoline, 1- 10,000-gallon regular gasoline, 1- 8,000-gallon premium gasoline, 1- 10,000-gallon diesel and 1-550-gallon waste oil. All gasoline and the diesel USTs were reported to be single walled fiberglass. The waste oil UST was reported as a single walled steel tank.
December 20	AGENCY CORRESPONDENCE: The DPW submitted a letter to G&M Oil indicating they had reviewed the site investigation report dated March 27, 1995 and that they were referring the case to the RWQCB since there was an indication in the report of significant soil and/or groundwater contamination at the site.
1996	
March	USTs Upgrade: Installation of spill and overfill prevention devices.

TABLE 1: CHRONOLOGY OF EVENTS
G&M Oil Company Station #16

Date	Event
1996	
March 21	FIELD WORK: Six product line and six dispenser island soil samples were collected by ATLAS.
April 2	REPORT: Closure application number MOD #158119 prepared by ATLAS submitted to the DPW. A Closure Report summarizing the results for the field work performed on March 21, 1996 was submitted to the LA County DPW.
May 28	AGENCY CORRESPONDENCE: The DPW submitted a letter to G&M Oil indicating they had reviewed the closure application number MOD #158119 dated April 2, 1996 and that they had met the requirements of the DPW; however they were referring the case to the RWQCB for consideration of further site assessment/remedial action.
1997	
June 4	AGENCY CORRESPONDENCE: The RWQCB submitted a letter to G&M Oil approving GRI's Summary of Preliminary Investigation and Proposed Workplan for Additional Subsurface Investigation dated May 12, 1992 with conditions.
September 3	FIELD WORK: A single boring was drilled at the site by ATLAS to a depth of about 66 feet bgs and completed as a groundwater monitoring well designated W-3. Additionally, well W-2 was re-drilled and replaced due to apparent pre-existing damage.
October 14	REPORT: ATLAS submitted a report titled, " <i>Additional Site Investigation and Workplan G&M Oil Station #16</i> " which summarized results of the September 3, 1997 site investigation activities and proposed a workplan for additional investigative activities.
October 29	AGENCY CORRESPONDENCE: The RWQCB submitted a letter to G&M Oil approving ATLAS " <i>Additional Site Investigation and Workplan</i> " dated October 14, 1997, with conditions.
1998	
February 24	FIELD WORK: ATLAS advanced four on-site borings, designated W-4 through W-7, to depths between 60 and 65 feet bgs and completed them as groundwater monitoring wells.
March 31	REPORT: ATLAS submitted a report titled: " <i>Continued Site Investigation for G&M Oil #16</i> " which summarized results of the February investigative activities.
April	USTs Upgrade: During the month of April G&M Oil had the USTs at the site upgraded to comply with the State and Federal Regulation of December 28, 1998. Upgrades included: interior epoxy liners, cathodic protection and striker plates.
November 23	AGENCY CORRESPONDENCE: The LA County DPW received from G&M Oil a "Underground Storage Tank Mandatory Compliance Questionnaire". The purpose of the questionnaire was to verify and update USTs records on file by the DPW. Along with the questionnaire G&M Oil submitted all pertinent documentation and certifications for the USTs upgrade.
1999	
January 18	FIELD WORK: ATLAS advanced one boring offsite at the Southland's 7-11 convenience store to a depth of 60 feet bgs. The boring was completed as a groundwater monitoring well designated W-8.
April 15	REPORT: ATLAS advanced one boring designated W-8 to a depth of 60 feet bgs. A description of the work accomplished was presented in the report titled: " <i>Groundwater Monitoring Report and Additional Well Installation, G&M Oil Station #16</i> ".
May 12	WASTE OIL UST REMOVAL: ATLAS removed the 550-gallon waste oil UST and collected one soil sample from beneath the UST and one soil sample from the stockpile of soil generated during the UST removal.
June 7	REPORT: ATLAS submitted the laboratory results to DPW from the analysis of soil samples collected during the removal of the 550-gallon waste oil tank. TPH-g, MTBE and BTEX were not detected in the soil samples. TRPH was detected at a concentration of 30 mg/kg beneath the UST and 31 mg/kg in the stockpile.

TABLE 1: CHRONOLOGY OF EVENTS
G&M Oil Company Station #16

Date	Event
2000	
February 8	AGENCY CORRESPONDENCE: The RWQCB submitted a letter to G&M Oil commenting on ATLAS's Groundwater Monitoring Report for the Fourth Quarter 1999. The RWQCB required G&M Oil to performed weekly free-product removal and the submittal of a Workplan for remediation of petroleum hydrocarbon and MTBE impacted groundwater.
April 14	REPORT: ATLAS prepared and submitted a report titled: " <i>Groundwater Monitoring Report 1st Quarter 2000</i> "
May 16	AGENCY CORRESPONDENCE: The RWQCB submitted a letter to G&M Oil commenting on ATLAS's "Corrective Action Plan" dated March 15, 2000. The Plan was approved with conditions.
June 30	REPORT: ATLAS prepared a summary report titled: " <i>Pilot Studies and Treatment Feasibility Evaluation</i> " which included results of a soil vapor extraction pilot test that had been performed. The results of the vapor extraction pilot test suggested an average 50-foot effective radius of influence. Due to the affected soil in the capillary fringe, the recommendation was made to consider a liquid ring blower in the event dual phase extraction became warranted in the future.
July 10	REPORT: ATLAS prepared and submitted a report titled: " <i>Groundwater Monitoring Report 2nd Quarter 2000</i> "
September 28	REPORT: ATLAS prepared and submitted a report titled: " <i>Groundwater Monitoring Report 3rd Quarter 2000</i> "
September 29	REPORT: ATLAS prepared and submitted a report titled: " <i>Revised Corrective Action Plan</i> " as a result of the pilot study and treatment feasibility evaluation.
December 6	FIELD WORK: Tanknology conducted tank tightness test on two 8,000-gallon and two 10,000-gallon USTs and product lines. Results of the tests indicated that all USTs and product line passed the pressure tests.
December 28	REPORT: ATLAS prepared and submitted a report titled: " <i>Groundwater Monitoring Report 4th Quarter 2000</i> "
2001	
February 21	AGENCY CORRESPONDENCE: The RWQCB submitted a letter to G&M Oil commenting on ATLAS's Revised Corrective Action Plan and their Groundwater Monitoring Report for the Fourth Quarter 2000.
March 13	FIELD WORK: ATLAS advanced one soil boring designated W-9 offsite (downgradient across Lambert Road in vacant lot adjacent to grocery store) and completed the borehole as a 2-inch diameter groundwater monitoring well. A total of nine soil samples were collected and analyzed for TPH-g, BTEX and oxygenates including MTBE. The analytical results for all soil samples were non-detect. A groundwater sample was not collected.
March 20	REPORT: ATLAS prepared and submitted a report titled: " <i>Workplan for Additional Site Assessment</i> " proposing to drill and sample four soil borings and install four groundwater monitoring wells (W-9, W-10, W-11 and W-12) to further assess the lateral and vertical extent of TPH affected soil and groundwater.
April 5	AGENCY CORRESPONDENCE: The RWQCB submitted a letter to G&M Oil approving the June 19 th Workplan for Additional Site Assessment with conditions.
June 19	REPORT: ATLAS prepared and submitted a letter report to G&M Oil summarizing the results of the March 13 field work.
August 14 and 15	FIELD WORK: Gradient installed two offsite (W-10 and W-12) and one on-site (W-11) groundwater monitoring wells
August 23 and 24	FIELD WORK: Gradient conducted 3 rd quarter 2001 groundwater monitoring activities.
September 6	FIELD WORK: ProTech Petroleum Services, Inc. conducted a leak detection test of the product lines. One product line from the supreme gasoline UST failed the test. All other product lines passed the test.

TABLE 1: CHRONOLOGY OF EVENTS
G&M Oil Company Station #16

Date	Event
September 14	REPORT: Gradient prepared and submitted a report titled: " <i>Phase II Environmental Site Assessment Report and 3rd Quarter 2001 Groundwater Monitoring Report</i> " detailing the results of the site investigation activities conducted in August.
November 13 and 14	FIELD WORK: Gradient conducted 4 th quarter 2001 groundwater monitoring activities.
December 27	REPORT: Gradient prepared and submitted a report titled: " <i>Quarterly Groundwater Monitoring Report, Fourth Quarter, 2001</i> "
2002	
January 14	AGENCY CORRESPONDENCE: The RWQCB submitted a letter to G&M Oil directing G&M to prepare a Preliminary Site Conceptual Model, Interim Remedial Action Report, Site Characterization Report, Final Remedial Action Plan and Periodic Progress, Updates and Monitoring Reports.
February 14 and 15	FIELD WORK: Gradient conducted 1st quarter 2002 groundwater monitoring activities.
May 15	REPORT: Gradient prepared and submitted a report titled: " <i>Preliminary Site Conceptual Model Report</i> "
July 12	AGENCY CORRESPONDENCE: The RWQCB submitted a letter to G&M Oil summarizing comments on the " <i>Preliminary Site Conceptual Model Report</i> ", approving proposed Interim Remedial Action Plan, and approving the installation of additional offsite groundwater monitoring wells.
July 15	REPORT: Gradient prepared and submitted a report titled: " <i>Site Conceptual Model Report Quarterly Update, Second Quarter 2002</i> "
October 8	REPORT: Gradient prepared and submitted a report titled: " <i>Site Conceptual Model Report Quarterly Update, Third Quarter 2002</i> "
December 16	REPORT: Gradient prepared and submitted a report titled: " <i>Site Conceptual Model Report Quarterly Update, Fourth Quarter 2002</i> "
2003	
April 28	REPORT: Gradient prepared and submitted a report titled: " <i>Site Conceptual Model Report Quarterly Update, First Quarter 2003</i> ". This summarized the installation of the interim remedial action.
April 29 and 30	FIELD WORK: Gradient installed the four offsite groundwater monitoring wells.
May 12 and 13	FIELD WORK: Gradient conducted 2nd quarter 2003 groundwater monitoring activities.
July 14	REPORT: Gradient prepared and submitted a report titled: " <i>Site Conceptual Model Report Quarterly Update and Additional Site Characterization Report, Second Quarter 2003</i> ". This summarized the installation of the interim remedial action.
August 14 and 15	FIELD WORK: Leighton Consulting conducted 3 rd quarter 2003 groundwater monitoring activities.
August 27	FIELD WORK: Leighton Consulting replaced the well box on W-4 and W-1.
September 5	FIELD WORK: Leighton Consulting cleaned and repaired well boxes on W-3, W-5 through W-9, and W-12.
October 6, 2003	REPORT: Leighton Consulting prepared and submitted a report titled: " <i>Site Conceptual Model Report Quarterly Update and Additional Site Characterization Report, Third Quarter 2003</i> ". This summarized the installation of the interim remedial action.
December 9 and 10	FIELD WORK: Leighton Consulting conducted 4 th quarter 2003 groundwater monitoring activities.
2004	

TABLE 1: CHRONOLOGY OF EVENTS
G&M Oil Company Station #16

Date	Event
February 4, 2004	REPORT: Leighton Consulting prepared and submitted a report titled: " <i>Site Conceptual Model Report Quarterly Update and Additional Site Characterization Report, Fourth Quarter 2003</i> ". This summarized the installation of the interim remedial action.
March 15 and 16	FIELD WORK: Leighton Consulting conducted 1 st quarter 2004 groundwater monitoring activities.
April 15, 2004	REPORT: Leighton Consulting prepared and submitted a report titled: " <i>Site Conceptual Model Report Quarterly Report, First Quarter 2004</i> ". This summarized the installation of the interim remedial action.
May 20 and 21	FIELD WORK: Leighton Consulting conducted 2 nd quarter 2004 groundwater monitoring activities.
July 15, 2004	REPORT: Leighton Consulting prepared and submitted a report titled: " <i>Site Conceptual Model Report Quarterly Report, Second Quarter 2004</i> ".
July 27 and 28	FIELD WORK: Leighton Consulting conducted 3 rd quarter 2004 groundwater monitoring activities.

TABLE 2: SUMMARY OF WELL DATA
G&M Oil Company Station No. 16, Whittier, CA

Well Number	GW Measure Date	Depth to Product DTP (feet)	Depth to Water DTW (feet)	Z Static Water Elev SWE (feet) MSL	A ELEV Top of Well Box (feet) MSL	B ELEV Top of Casing (feet) MSL	-(A-B) Riser Height (feet)	Total Depth (feet)	GW Measure Description
W-1	11/13/2001	N/A	43.65	130.06	173.81	173.71	-0.10	66.00	
	2/14/2002	N/A	44.11	129.60	173.81	173.71	-0.10	66.00	
	5/21/2002	44.67	44.70	129.01	173.81	173.71	-0.10	66.00	water level indicator with gauging pipe
	8/14/2002	45.37	45.40	128.31	173.81	173.71	-0.10	66.00	Interface Probe
	11/12/2002	46.60	46.81	126.90	173.81	173.71	-0.10	66.00	Interface Probe
	2/13/2003	47.29	47.31	126.40	173.81	173.71	-0.10	66.00	Interface Probe
	5/13/2003	N/A	46.65	127.06	173.81	173.71	-0.10	66.00	water level indicator with gauging pipe
	8/15/2003	N/A	46.57	127.14	173.81	173.71	-0.10	66.00	
	12/9/2003	48.29	48.31	125.40	173.81	173.71	-0.10	66.00	water level indicator with gauging pipe
	3/9/2004	49.46	49.50	124.21	173.81	173.71	-0.10	66.00	Interface Probe
	5/20/2004	50.03	50.06	123.65	173.81	173.71	-0.10	66.00	Interface Probe
W-2	7/28/2004	50.38	50.40	123.31	173.81	173.71	-0.10	66.00	Interface Probe
	11/13/2001	N/A	43.85	130.25	174.50	174.10	-0.40	63.80	
	2/14/2002	N/A	44.31	129.79	174.50	174.10	-0.40	64.70	
	5/21/2002	N/A	45.20	128.90	174.50	174.10	-0.40	64.70	
	8/14/2002	N/A	45.72	128.38	174.50	174.10	-0.40	64.90	
	11/12/2002	N/A	47.06	127.04	174.50	174.10	-0.40	64.70	
	2/13/2003	N/A	47.68	126.42	174.50	174.10	-0.40	64.70	
	5/12/2003	N/A	46.98	127.12	174.50	174.10	-0.40	64.70	
	8/15/2003	N/A	46.91	127.19	174.50	174.10	-0.40	64.70	
	12/9/2003	N/A	48.48	125.62	174.50	174.10	-0.40	64.70	
	3/9/2004	N/A	49.80	124.30	174.50	174.10	-0.40	64.70	
W-3	5/20/2004	N/A	50.03	124.07	174.50	174.10	-0.40	64.70	
	7/28/2004	N/A	50.68	123.42	174.50	174.10	-0.40	64.70	
	11/14/2001	N/A	44.39	129.97	175.01	174.36	-0.65	64.25	
	2/14/2002	N/A	44.88	129.48	175.01	174.36	-0.65	64.20	
	5/21/2002	N/A	47.40	126.96	175.01	174.36	-0.65	64.20	
	8/14/2002	N/A	45.96	128.40	175.01	174.36	-0.65	64.10	
	11/12/2002	N/A	47.28	127.08	175.01	174.36	-0.65	64.20	
	2/13/2003	N/A	47.94	126.42	175.01	174.36	-0.65	64.20	
	5/13/2003	N/A	47.17	127.19	175.01	174.36	-0.65	64.20	
	8/15/2003	N/A	47.33	127.03	175.01	174.36	-0.65	64.20	
	12/9/2003	N/A	48.86	125.50	175.01	174.36	-0.65	64.20	
W-4	3/9/2004	N/A	50.02	124.34	175.01	174.36	-0.65	64.20	
	5/20/2004	N/A	50.54	123.82	175.01	174.36	-0.65	64.20	
	7/28/2004	N/A	50.75	123.61	175.01	174.36	-0.65	64.20	
	11/14/2001	N/A	43.35	129.93	173.45	173.28	-0.17	59.60	
	2/14/2002	43.90	43.88	129.40	173.45	173.28	-0.17	61.35	
	5/21/2002	44.21	44.46	128.82	173.45	173.28	-0.17	61.35	water level indicator with gauging pipe
	8/14/2002	44.95	45.50	127.78	173.45	173.28	-0.17	61.35	Interface Probe
	11/12/2002	46.15	46.65	126.63	173.45	173.28	-0.17	61.35	Interface Probe
	2/13/2003	46.83	47.25	126.03	173.45	173.28	-0.17	61.32	Interface Probe
	5/13/2003	46.20	46.23	127.05	173.45	173.28	-0.17	61.45	water level indicator with gauging pipe
	8/15/2003	N/A	46.30	126.98	173.45	173.28	-0.17	61.45	
W-4	12/9/2003	47.90	47.92	125.36	173.45	173.28	-0.17	61.45	water level indicator with gauging pipe
	3/9/2004	N/A	49.25	124.03	173.45	173.28	-0.17	61.40	Interface Probe with gauging pipe
	5/20/2004	N/A	49.68	123.60	173.45	173.28	-0.17	61.40	Interface Probe with gauging pipe
	7/28/2004	49.99	50.00	123.28	173.45	173.28	-0.17	61.40	Interface Probe

TABLE 2: SUMMARY OF WELL DATA
G&M Oil Company Station No. 16, Whittier, CA

Well Number	CW Measure Date	Depth to Product DTP (feet)	Depth to Water DTW (feet)	Z Static Water Elev SWE (feet) MSL	A ELEV Top of Well Box (feet) MSL	B ELEV Top of Casing (feet) MSL	-(A-B) Riser Height (feet)	Total Depth (feet)	GW Measure Description
W-5	11/14/2001	N/A	44.35	129.96	175.76	174.31	-1.45	61.95	
	2/14/2002	N/A	44.83	129.48	175.76	174.31	-1.45	61.80	
	5/21/2002	N/A	45.30	129.01	175.76	174.31	-1.45	61.80	
	8/14/2002	46.05	46.10	128.21	175.76	174.31	-1.45	61.80	Interface Probe
	11/12/2002	47.25	47.28	127.03	175.76	174.31	-1.45	61.80	Interface Probe
	2/13/2003	47.93	47.96	126.35	175.76	174.31	-1.45	61.80	Interface Probe
	5/12/2003	47.22	47.96	126.35	175.76	174.31	-1.45	61.80	water level above water table probe
	8/14/2003	N/A	47.31	127.00	175.76	174.31	-1.45	61.80	
	12/9/2003	N/A	48.86	125.45	175.76	174.31	-1.45	61.80	
	3/9/2004	N/A	50.00	124.31	175.76	174.31	-1.45	61.80	
W-6	5/20/2004	N/A	50.60	123.71	175.76	174.31	-1.45	61.80	
	7/28/2004	N/A	50.86	123.45	175.76	174.31	-1.45	61.80	
W-6	11/14/2001	N/A	43.57	129.95	173.71	173.52	-0.19	62.20	
	2/14/2002	N/A	44.10	129.42	173.71	173.52	-0.19	62.50	
	5/21/2002	N/A	44.60	128.92	173.71	173.52	-0.19	62.50	
	8/14/2002	N/A	45.12	128.40	173.71	173.52	-0.19	62.60	
	11/12/2002	N/A	46.54	126.98	173.71	173.52	-0.19	62.50	
	2/13/2003	N/A	47.08	126.44	173.71	173.52	-0.19	62.50	
	5/13/2003	N/A	46.35	127.17	173.71	173.52	-0.19	62.50	
	8/14/2003	N/A	46.05	127.47	173.71	173.52	-0.19	62.50	
	12/9/2003	N/A	48.08	125.44	173.71	173.52	-0.19	62.50	
	3/9/2004	N/A	49.25	124.27	173.71	173.52	-0.19	62.50	
W-7	5/20/2004	N/A	49.76	123.76	173.71	173.52	-0.19	62.50	
	7/28/2004	N/A	50.04	123.48	173.71	173.52	-0.19	62.50	
W-7	11/13/2001	N/A	45.00	129.88	175.30	174.88	-0.42	63.35	
	2/14/2002	N/A	45.40	129.48	175.30	174.88	-0.42	63.67	
	5/21/2002	N/A	45.90	128.98	175.30	174.88	-0.42	63.67	
	8/14/2002	N/A	46.59	128.29	175.30	174.88	-0.42	64.00	
	11/12/2002	N/A	47.86	127.02	175.30	174.88	-0.42	63.67	
	2/13/2003	N/A	48.40	126.48	175.30	174.88	-0.42	63.70	
	5/13/2003	N/A	47.63	127.25	175.30	174.88	-0.42	63.67	
	8/15/2003	N/A	47.80	127.08	175.30	174.88	-0.42	63.67	
	12/9/2003	N/A	49.39	125.49	175.30	174.88	-0.42	63.67	
	3/9/2004	N/A	50.50	124.38	175.30	174.88	-0.42	63.70	
W-8	5/20/2004	N/A	51.04	123.84	175.30	174.88	-0.42	63.70	
	7/28/2004	N/A	50.72	124.16	175.30	174.88	-0.42	63.70	
W-8	11/13/2001	N/A	43.84	129.89	174.04	173.73	-0.31	58.30	
	2/14/2002	N/A	44.25	129.48	174.04	173.73	-0.31	58.90	
	5/21/2002	N/A	44.80	128.93	174.04	173.73	-0.31	58.90	
	8/14/2002	N/A	45.30	128.43	174.04	173.73	-0.31	59.20	
	11/12/2002	N/A	46.61	127.12	174.04	173.73	-0.31	58.90	
	2/13/2003	N/A	47.21	127.12	174.04	173.73	-0.31	58.90	
	5/12/2003	N/A	46.66	127.07	174.04	173.73	-0.31	58.90	
	8/14/2003	N/A	46.68	127.05	174.04	173.73	-0.31	58.90	
	12/9/2003	N/A	48.17	125.56	174.04	173.73	-0.31	58.90	
	3/10/2004	N/A	49.15	124.38	174.04	173.73	-0.31	58.90	
W-8	5/21/2004	N/A	49.90	123.83	174.04	173.73	-0.31	58.90	
	7/27/2004	N/A	50.16	123.57	174.04	173.73	-0.31	58.90	

TABLE 2: SUMMARY OF WELL DATA
G&M Oil Company Station No. 16, Whittier, CA

Well Number	GW Measure Date	Depth to Product DTP (feet)	Depth to Water DTW (feet)	Z Static Water Elev SWE (feet) MSL	A ELEV Top of Well Box (feet) MSL	B ELEV Top of Casing (feet) MSL	-(A-B) Riser Height (feet)	Total Depth (feet)	GW Measure Description
MW-13	05/12/2003	N/A	45.51	127.03	172.85	172.54	-0.31	58.38	
	08/14/2003	N/A	45.75	126.79	172.85	172.54	-0.31	58.38	
	12/09/2003	N/A	47.37	125.17	172.85	172.54	-0.31	58.38	
	03/10/2004	N/A	48.55	123.99	172.85	172.54	-0.31	58.40	
	05/21/2004	N/A	49.04	123.50	172.85	172.54	-0.31	58.40	
	07/27/2004	N/A	49.20	123.34	172.85	172.54	-0.31	58.40	
MW-14	05/12/2003	N/A	46.34	126.90	173.85	173.24	-0.61	60.45	
	08/14/2003	N/A	46.59	126.65	173.85	173.24	-0.61	60.45	
	12/09/2003	N/A	48.31	124.93	173.85	173.24	-0.61	60.45	
	03/09/2004	N/A	49.49	123.75	173.85	173.24	-0.61	60.45	
	05/20/2004	N/A	50.02	123.22	173.85	173.24	-0.61	60.45	
	07/27/2004	N/A	53.50	119.74	173.85	173.24	-0.61	60.45	
MW-15	05/12/2003	N/A	46.42	127.25	174.00	173.67	-0.33	58.55	
	08/14/2003	N/A	46.51	127.16	174.00	173.67	-0.33	58.55	
	12/09/2003	N/A	48.12	125.55	174.00	173.67	-0.33	58.55	
	03/10/2004	N/A	49.32	124.35	174.00	173.67	-0.33	58.55	
	05/21/2004	N/A	49.79	123.88	174.00	173.67	-0.33	58.55	
	07/27/2004	N/A	50.09	123.58	174.00	173.67	-0.33	58.55	
MW-16	05/12/2003	N/A	48.86	127.34	176.60	176.20	-0.40	58.50	
	08/14/2003	N/A	48.8	127.40	176.60	176.20	-0.40	58.50	
	12/09/2003	N/A	50.59	125.61	176.60	176.20	-0.40	58.50	
	03/10/2004	N/A	51.75	124.45	176.60	176.20	-0.40	58.50	
	05/21/2004	N/A	52.28	123.92	176.60	176.20	-0.40	58.50	
	07/27/2004	N/A	52.55	123.65	176.60	176.20	-0.40	58.50	

Notes:

DTW = Depth to Water Surface

SWE = Static Water Elevation

N/A = Not Available

TABLE 3: SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
G&M Oil Company Station No. 16, Whittier, CA

Sample Identification	Sample Date			Volatile Organic Compounds				Oxygenates					
		EFHs (mg/kg)	VFHs (mg/kg)	Benzene (ug/kg)	Ethylbenzene (ug/kg)	Toluene (ug/kg)	Xylenes (ug/kg)	DIPE (ug/kg)	ETBE (ug/kg)	TAME (ug/kg)	MTBE (ug/kg)	TBA (ug/kg)	TRPH (mg/kg)
SOIL													
W-1-35'	03/31/92	--	6.0	81	<5.0	130	320	--	--	--	--	--	--
W-1-55'	03/31/92	--	1,100	8700	44,000	10,000	41,000	--	--	--	--	--	--
B-12 / W-2-15'	04/16/92	--	<1.0	<5	<5	<5	<5	--	--	--	--	--	--
B-12 / W-2-30'	04/16/92	--	<1.0	<5	<5	<5	<5	--	--	--	--	--	--
B-12 / W-2-45'	04/16/92	--	1,200	8000	30,000	14,000	74,000	--	--	--	--	--	--
W-3-5'	09/03/97	--	ND	ND	ND	ND	ND	--	--	--	ND	--	--
W-3-10'	09/03/97	--	ND	ND	ND	ND	ND	--	--	--	ND	--	--
W-3-15'	09/03/97	--	ND	ND	ND	ND	ND	--	--	--	32	--	--
W-3-20'	09/03/97	--	ND	ND	ND	ND	ND	--	--	--	530	--	--
W-3-25'	09/03/97	--	2.5	ND	ND	ND	ND	--	--	--	1,700	--	--
W-3-30'	09/03/97	--	ND	5	ND	ND	ND	--	--	--	280	--	--
W-3-35'	09/03/97	--	ND	10	ND	18	ND	--	--	--	25	--	--
W-3-40'	09/03/97	--	1,780	4,300	52,000	27,000	164,000	--	--	--	5,400	--	--
W-3-45'	09/03/97	--	284	810	17,000	4,000	26,000	--	--	--	1,200	--	--
W-3-50'	09/03/97	--	3,610	9,300	163,000	48,000	256,000	--	--	--	9,600	--	--
W-4-10'	02/24/98	<10	<1.0	<5	<5	<5	<15	--	--	--	<10	--	--
W-4-20'	02/24/98	<10	<1.0	<5	<5	<5	<15	--	--	--	<10	--	--
W-4-30'	02/24/98	<10	<1.0	<5	<5	<5	<15	--	--	--	13*	--	--
W-4-40'	02/24/98	<10	2.5	31	<5	11	<15	--	--	--	2,000*	--	--
W-4-45'	02/24/98	14	160	1,240	1,640	2,600	13,400	--	--	--	2,650*	--	--
W-5-10'	02/19/98	<10	<1.0	<5	<5	<5	<15	--	--	--	<10	--	--
W-5-20'	02/19/98	<10	<1.0	<5	<5	<5	<15	--	--	--	<10	--	--
W-5-30'	02/19/98	<10	<1.0	<5	<5	<5	<15	--	--	--	<10	--	--
W-5-35'	02/19/98	<10	<1.0	<5	<5	<5	<15	--	--	--	<10	--	--
W-5-40'	02/19/98	<10	<1.0	<5	<5	<5	<15	--	--	--	57*	--	--

TABLE 3: SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
G&M Oil Company Station No. 16, Whittier, CA

Sample Identification	Sample Date	Volatile Organic Compounds						Oxygenates					TRPH (mg/kg)
		EFHs (mg/kg)	VFHs (mg/kg)	Benzene (ug/kg)	Ethylbenzene (ug/kg)	Toluene (ug/kg)	Xylenes (ug/kg)	DIPE (ug/kg)	ETBE (ug/kg)	TAME (ug/kg)	MTBE (ug/kg)	TBA (ug/kg)	
W-6-10'	02/20/98	<10	<1.0	<5	<5	<5	<15	--	--	--	<10	--	--
W-6-20'	02/20/98	<10	<1.0	<5	<5	<5	<15	--	--	--	<10	--	--
W-6-30'	02/20/98	<10	<1.0	<5	<5	<5	<15	--	--	--	<10	--	--
W-6-35'	02/20/98	<10	<1.0	<5	<5	<5	<15	--	--	--	<10	--	--
W-6-40'	02/20/98	<10	<1.0	<5	<5	<5	<15	--	--	--	<10	--	--
W-7-10'	02/20/98	<10	<1.0	<5	<5	<5	<15	--	--	--	<10	--	--
W-7-20'	02/20/98	<10	<1.0	<5	<5	<5	<15	--	--	--	<10	--	--
W-7-30'	02/20/98	<10	<1.0	<5	<5	<5	<15	--	--	--	10.4*	--	--
W-7-35'	02/20/98	<10	<1.0	<5	<5	<5	<15	--	--	--	<10	--	--
W-7-40'	02/20/98	<10	<1.0	<5	<5	<5	<15	--	--	--	15*	--	--
W-8-5'	01/18/99	13	912	2,080	32,900	25,400	137,000	--	--	--	3,340	--	--
W-8-10'	01/18/99	<10	31	<25	72	177	1,300	--	--	--	110	--	--
W-8-15'	01/18/99	<10	--	--	--	--	--	--	--	--	--	--	--
W-8-20'	01/18/99	<10	<1.0	<5	<5	<5	<15	--	--	--	400	--	--
W-8-30'	01/18/99	<10	<1.0	<5	9	<5	<15	--	--	--	93	--	--
W-8-40'	01/18/99	<10	<1.0	<5	<5	<5	<15	--	--	--	13	--	--
W-9-5'	03/13/01	--	<0.5	<2.0	<2.0	<2.0	<4.0	<5.0	<5.0	<5.0	<5.0	<200	--
W-9-10'	03/13/01	--	<0.5	<2.0	<2.0	<2.0	<4.0	<5.0	<5.0	<5.0	<5.0	<200	--
W-9-15'	03/13/01	--	<0.5	<2.0	<2.0	<2.0	<4.0	<5.0	<5.0	<5.0	<5.0	<200	--
W-9-20'	03/13/01	--	<0.5	<2.0	<2.0	<2.0	<4.0	<5.0	<5.0	<5.0	<5.0	<200	--
W-9-25'	03/13/01	--	<0.5	<2.0	<2.0	<2.0	<4.0	<5.0	<5.0	<5.0	<5.0	<200	--
W-9-30'	03/13/01	--	<0.5	<2.0	<2.0	<2.0	<4.0	<5.0	<5.0	<5.0	<5.0	<200	--
W-9-35'	03/13/01	--	<0.5	<2.0	<2.0	<2.0	<4.0	<5.0	<5.0	<5.0	<5.0	<200	--
W-9-40'	03/13/01	--	<0.5	<2.0	<2.0	<2.0	<4.0	<5.0	<5.0	<5.0	<5.0	<200	--
W-9-45'	03/13/01	--	<0.5	<2.0	<2.0	<2.0	<4.0	<5.0	<5.0	<5.0	<5.0	<200	--

TABLE 3: SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
G&M Oil Company Station No. 16, Whittier, CA

Sample Identification	Sample Date	Volatile Organic Compounds						Oxygenates					
		EPHs (mg/kg)	VFHs (mg/kg)	Benzene (ug/kg)	Ethylbenzene (ug/kg)	Toluene (ug/kg)	Xylenes (ug/kg)	DIPE (ug/kg)	ETBE (ug/kg)	TAME (ug/kg)	MTBE (ug/kg)	TBA (ug/kg)	TRPH (mg/kg)
W-10-5'	08/15/01	<5.0	<0.50	<2.0	<2.0	<2.0	<4.0	<5.0	<5.0	<5.0	<5.0	<50	<5.0
W-10-10'	08/15/01	<5.0	<1.0	--	--	--	--	--	--	--	--	--	--
W-10-15'	08/15/01	<5.0	<1.0	--	--	--	--	--	--	--	--	--	--
W-10-20'	08/15/01	<5.0	<1.0	--	--	--	--	--	--	--	--	--	--
W-10-25'	08/15/01	<5.0	<0.50	<2.0	<2.0	<2.0	<4.0	<5.0	<5.0	<5.0	<5.0	<50	6.4
W-10-30'	08/15/01	<5.0	<1.0	--	--	--	--	--	--	--	--	--	--
W-10-35'	08/15/01	<5.0	<0.42	<1.7	<1.7	<1.7	2.0	<4.2	<4.2	<4.2	35	<42	5.2
W-10-40'	08/15/01	<5.0	<0.40	<1.6	<1.6	<1.6	<3.2	<4.0	<4.0	<4.0	24	<40	7.6
W-10-45'	08/15/01	<5.0	<0.86	--	--	--	--	--	--	--	--	--	--
W-10-50'	08/15/01	<5.0	<0.39	<1.6	<1.6	<1.6	<3.2	<3.9	<3.9	<3.9	<3.9	<39	<5.0
W-11-5'	08/14/01	<5.0	<0.90	--	--	--	--	--	--	--	--	--	--
W-11-10'	08/14/01	<5.0	*<0.45	<1.8	<1.8	<1.8	<3.6	<4.5	<4.5	<4.5	<4.5	<45	--
W-11-15'	08/14/01	<5.0	*<0.43	<1.7	<1.7	<1.7	<3.5	<4.3	<4.3	<4.3	<4.3	<43	--
W-11-20'	08/14/01	<5.0	*<0.41	<1.6	<1.6	<1.6	<3.3	<4.1	<4.1	<4.1	<4.1	<41	--
W-11-25'	08/14/01	<5.0	<0.83	--	--	--	--	--	--	--	--	--	--
W-11-30'	08/14/01	<5.0	<1.0	--	--	--	--	--	--	--	--	--	--
W-11-35'	08/14/01	<5.0	<0.87	--	--	--	--	--	--	--	--	--	--
W-11-40'	08/14/01	<5.0	*<0.40	7.0	<1.6	<1.6	<3.2	<4.0	<4.0	<4.0	<4.0	<40	--
W-11-45'	08/14/01	<5.0	*<0.50	<2.0	<2.0	<2.0	<4.0	<5.0	<5.0	<5.0	<5.0	<50	--
W-11-50'	08/14/01	<5.0	--	--	--	--	--	--	--	--	--	--	--
W-12-5'	08/14/01	15	*<0.44	<1.8	<1.8	<1.8	<3.6	<4.4	<4.4	<4.4	<4.4	<44	--
W-12-10'	08/14/01	<5.0	*<0.50	<2.0	<2.0	<2.0	<4.0	<5.0	<5.0	<5.0	<5.0	<50	--
W-12-15'	08/14/01	<5.0	*<0.43	<1.7	<1.7	<1.7	<3.4	<4.3	<4.3	<4.3	<4.3	<43	--
W-12-20'	08/14/01	<5.0	<0.89	--	--	--	--	--	--	--	--	--	--
W-12-25'	08/14/01	<5.0	*<0.43	<1.7	<1.7	<1.7	<3.4	<4.3	<4.3	<4.3	<4.3	<43	--
W-12-30'	08/14/01	<5.0	<0.78	--	--	--	--	--	--	--	--	--	--
W-12-35'	08/14/01	<5.0	*<0.40	<1.6	<1.6	<1.6	<3.2	<4.0	<4.0	<4.0	14	<40	--
W-12-40'	08/14/01	<5.0	--	--	--	--	--	--	--	--	--	--	--

TABLE 3: SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
G&M Oil Company Station No. 16, Whittier, CA

Sample Identification	Sample Date	Volatile Organic Compounds						Oxygenates					TRPH (mg/kg)
		EFHs (mg/kg)	VFHs (mg/kg)	Benzene (ug/kg)	Ethylbenzene (ug/kg)	Toluene (ug/kg)	Xylenes (ug/kg)	DIPE (ug/kg)	ETBE (ug/kg)	TAME (ug/kg)	MTBE (ug/kg)	TBA (ug/kg)	
MW-13-5'	04/29/03	47	<1.0	<1.7	<1.7	<1.7	<3.5	<4.3	<4.3	<4.3	<4.3	<43	--
MW-13-10'	04/29/03	34	<1.0	<2.4	<2.4	<2.4	<4.7	<5.9	<5.9	<5.9	<5.9	<59	--
MW-13-15'	04/29/03	<5.0	<1.0	<2.0	<2.0	<2.0	<4.0	<5.0	<5.0	<5.0	<5.0	<50	--
MW-13-20'	04/29/03	<5.0	<1.0	<1.6	<1.6	<1.6	<3.2	<4.1	<4.1	<4.1	<4.1	<41	--
MW-13-25'	04/29/03	<5.0	<1.0	<1.7	<1.7	<1.7	<3.4	<4.2	<4.2	<4.2	<4.2	<42	--
MW-13-30'	04/29/03	5.5	<1.0	<1.7	<1.7	<1.7	<3.3	<4.1	<4.1	<4.1	<4.1	<41	--
MW-13-35'	04/29/03	9.8	<1.0	<1.6	<1.6	<1.6	<3.2	<4.0	<4.0	<4.0	<4.0	<40	--
MW-13-40'	04/29/03	<5.0	<1.0	<1.6	<1.6	<1.6	<3.3	<4.1	<4.1	<4.1	<4.1	<41	--
MW-13-45'	04/29/03	12	<1.0	<1.6	<1.6	<1.6	<3.3	<4.1	<4.1	<4.1	<4.1	<41	--
MW-13-50'	04/29/03	<5.0	<1.0	70	4.5	<1.7	<3.4	<4.2	<4.2	<4.2	11	<42	--
MW-13-55'	04/29/03	13	<1.0	<1.7	<1.7	<1.7	<3.3	<4.1	<4.1	<4.1	5.4	<41	--
MW-13-60'	04/29/03	<5.0	<1.0	<2.3	<2.3	<2.3	<4.5	<5.7	<5.7	<5.7	<5.7	<57	--
MW-14-5'	04/29/03	<5.0	<1.0	<1.8	<1.8	<1.8	<3.6	<4.5	<4.5	<4.5	<4.5	<45	--
MW-14-10'	04/29/03	<5.0	<1.0	<1.8	<1.8	<1.8	<3.6	<4.4	<4.4	<4.4	<4.4	<44	--
MW-14-15'	04/29/03	6.8	<1.0	<1.7	<1.7	<1.7	<3.5	<4.3	<4.3	<4.3	<4.3	<43	--
MW-14-20'	04/29/03	8.3	<1.0	<1.8	<1.8	<1.8	<3.5	<4.4	<4.4	<4.4	<4.4	<44	--
MW-14-25'	04/29/03	<5.0	<1.0	<1.8	<1.8	<1.8	<3.5	<4.4	<4.4	<4.4	<4.4	<44	--
MW-14-30'	04/29/03	<5.0	<1.0	<1.7	<1.7	<1.7	<3.4	<4.2	<4.2	<4.2	<4.2	<42	--
MW-14-35'	04/29/03	<5.0	<1.0	<1.6	<1.6	<1.6	<3.2	<4.0	<4.0	<4.0	<4.0	<40	--
MW-14-40'	04/29/03	<5.0	<1.0	<1.7	<1.7	<1.7	<3.3	<4.2	<4.2	<4.2	<4.2	<42	--
MW-14-45'	04/29/03	<5.0	<1.0	<1.7	<1.7	<1.7	<3.4	<4.2	<4.2	<4.2	<4.2	<42	--
MW-14-50'	04/29/03	<5.0	<1.0	<1.7	<1.7	<1.7	<3.4	<4.2	<4.2	<4.2	130	<42	--
MW-14-55'	04/29/03	<5.0	<1.0	<1.7	<1.7	<1.7	<3.4	<4.2	<4.2	<4.2	59	<42	--
MW-14-60'	04/29/03	<5.0	<1.0	<1.7	<1.7	<1.7	<3.4	<4.2	<4.2	<4.2	33	<42	--

TABLE 3: SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
G&M Oil Company Station No. 16, Whittier, CA

Sample Identification	Sample Date	Volatile Organic Compounds						Oxygenates					TRPH (mg/kg)
		EFHs (mg/kg)	VFHs (mg/kg)	Benzene (ug/kg)	Ethylbenzene (ug/kg)	Toluene (ug/kg)	Xylenes (ug/kg)	DIPE (ug/kg)	ETBE (ug/kg)	TAME (ug/kg)	MTBE (ug/kg)	TBA (ug/kg)	
MW-15-5'	04/30/03	10	<1.0	<1.7	<1.7	<1.7	<3.5	<4.4	<4.4	<4.4	<4.4	<44	--
MW-15-10'	04/30/03	<5.0	<1.0	<2.0	<2.0	<2.0	<4.0	<5.0	<5.0	<5.0	<5.0	<50	--
MW-15-15'	04/30/03	5.9	<1.0	<1.7	<1.7	<1.7	<3.4	<4.2	<4.2	<4.2	<4.2	<42	--
MW-15-20'	04/30/03	<5.0	<1.0	<1.6	<1.6	<1.6	<3.3	<4.1	<4.1	<4.1	<4.1	<41	--
MW-15-25'	04/30/03	<5.0	<1.0	<1.6	<1.6	<1.6	<3.2	<4.1	<4.1	<4.1	<4.1	<41	--
MW-15-30'	04/30/03	5.7	<1.0	<1.6	<1.6	<1.6	<3.2	<4.0	<4.0	<4.0	34	<40	--
MW-15-35'	04/30/03	5.7	<1.0	<1.6	<1.6	<1.6	<3.1	<3.9	<3.9	<3.9	34	<39	--
MW-15-40'	04/30/03	<5.0	<1.0	<88	<88	<88	<180	<220	<220	<220	530	<4,400	--
MW-15-45'	04/30/03	5.1	<1.0	<79	<79	<79	<160	<200	<200	<200	450	<4,000	--
MW-15-50'	04/30/03	<5.0	<1.0	<1.8	<1.8	<1.8	<3.5	21	<4.4	<4.4	200	<44	--
MW-15-55'	04/30/03	<5.0	<1.0	2.6	<1.6	<1.6	<3.3	<4.1	<4.1	<4.1	<4.1	<41	--
MW-15-60'	04/30/03	7.7	<1.0	<2.0	<2.0	<2.0	<4.0	<5.0	<5.0	<5.0	<5.0	<50	--
MW-16-5'	04/30/03	29	<1.0	<2.0	<2.0	<2.0	<4.0	<5.0	<5.0	<5.0	<5.0	<50	--
MW-16-10'	04/30/03	6.1	<1.0	<1.8	<1.8	<1.8	<3.5	<4.4	<4.4	<4.4	<4.4	<44	--
MW-16-15'	04/30/03	6.2	<1.0	<1.7	<1.7	<1.7	<3.5	<4.3	<4.3	<4.3	<4.3	<43	--
MW-16-20'	04/30/03	5.6	<1.0	<1.6	<1.6	<1.6	<3.3	<4.1	<4.1	<4.1	<4.1	<41	--
MW-16-25'	04/30/03	<5.0	<1.0	<1.7	<1.7	<1.7	<3.5	<4.3	<4.3	<4.3	<4.3	<43	--
MW-16-30'	04/30/03	6.4	<1.0	<1.8	<1.8	<1.8	<3.5	<4.4	<4.4	<4.4	<4.4	<44	--
MW-16-35'	04/30/03	<5.0	<1.0	<1.7	<1.7	<1.7	<3.4	<4.2	<4.2	<4.2	<4.2	<42	--
MW-16-40'	04/30/03	6.2	<1.0	<1.8	<1.8	<1.8	<3.5	<4.4	<4.4	<4.4	130	<44	--
MW-16-45'	04/30/03	7.2	<1.0	<80	<80	<80	<160	<200	<200	<200	1,500	<4,000	--
MW-16-50'	04/30/03	<5.0	<1.0	<1.7	<1.7	<1.7	<3.4	<4.2	<4.2	<4.2	110	<42	--
MW-16-55'	04/30/03	<5.0	<1.0	<1.7	<1.7	<1.7	<3.5	<4.3	<4.3	<4.3	<4.3	<43	--
MW-16-60'	04/30/03	12	<1.0	<2.0	<2.0	<2.0	<4.0	<5.0	<5.0	<5.0	23	<50	--

NOTES:

Soil samples collected from W-1 and W-2, W-4 through W-7 (EPA Methods 8015/8020)

Soil samples collected from W-3 and W-8, methods unknown

* (EPA Method 8260A)

Soil samples collected from W-9 through W-16 (EPA Methods 8015/8260B)

EFHs = Extractable Fuel Hydrocarbons

VFHs = Volatile Fuel Hydrocarbons

TRPH = Total Recoverable Petroleum Hydrocarbons

mg/kg=milligrams per kilograms or parts per million

ug/kg=micrograms per kilograms or parts per billion

<0.40=less than laboratory detection limit

-- soil sample not analyzed

**TABLE 4:
SUMMARY OF
GROUNDWATER ANALYTICAL RESULTS,
G&M Oil Company Station No. 16**

	Sample ID	Sample Date	Volatile Organic Compounds						Oxygenates				
			E.FHs (mg/l)	VFHs (u g/l)	Benzene (u g/l)	Toluene (u g/l)	Ethylbenzene (u g/l)	Xylenes (u g/l)	DIPE (u g/l)	ETBE (u g/l)	TAME (u g/l)	MTBE (u g/l)	TBA (u g/l)
ON-SITE WELLS	W-1	11/13/01	12	44,000	21,000	11,000	2,000	4,700	<2,500	<2,500	<2,500	39,000	<12,000
		02/14/02	<0.50	42,000	9,200	9,200	1,200	3,900	<500	<500	<500	7,200	<2500
		05/21/02	Well W-1 not sampled on this date, product observed in well.										
		08/14/02	Well W-1 not sampled on this date, product observed in well.										
		11/13/02	Well W-1 not sampled on this date, product observed in well.										
		02/13/03	Well W-1 not sampled on this date, product observed in well.										
		05/13/03	2.5	5,000	140	67	44	830	<5.0	<5.0	<5.0	36	<25
		08/15/03	2.1	3,900	69	26	37	450	<5.0	<5.0	<5.0	84	<10
		12/09/03	6.5	13,000	2,300	1,000	190	1,500	16	<5.0	<5.0	5,100	1,100
		03/09/04	Well W-1 not sampled on this date, product observed in well.										
		05/20/04	Well W-1 not sampled on this date, product observed in well.										
	07/28/04	2.3	6,800	1,100	100	160	130	<200	<200	<200	3,300	<400	
	W-2	11/13/01	<10	14,000	1,900	1,400	1,100	1,700	<250	<250	<250	5,100	<1,200
		02/14/02	5.3	10,000	170	140	360	410	<5.0	<5.0	<5.0	70	52
		05/21/02	<5.0	8,700	490	190	500	430	<50	<50	<50	860	<250
		08/14/02	4.5	8,900	1,400	190	860	1,200	<500	<500	<500	6,000	<2,500
		11/13/02	4.0	28,000	3,900	620	980	1,600	<250	<250	<250	9,300	<1,200
		02/14/03	1.6	3,600	660	72	210	160	<250	<250	<250	2,200	<500
		05/12/03	<0.50	64	<5.0	<5.0	<5.0	<15	<50	<50	<50	990	<250
		08/15/03	<0.50	100	26	<5.0	<5.0	<10	<50	<50	<50	840	<100
		12/10/03	1.7	10,000	3,300	980	460	830	<200	<200	<200	2,800	640
		03/09/04	3.2	17,000	4,700	2,500	730	1,400	<500	<500	<500	7,400	<1000
		05/20/04	1.2	7,200	2,500	360	330	410	<500	<500	<500	6,000	<1,000
	07/28/04	1.2	18,000	4,900	220	610	940	<500	<500	<500	11,000	<1,000	
	W-3	11/14/01	<5.0	14,000	1,600	1,100	990	2,600	<100	<100	<100	1,100	<500
		02/14/02	<5.0	7,700	780	650	510	1,400	<50	<50	<50	440	<250
		05/21/02	17	34,000	3,700	2,600	2,500	6,400	<100	<100	<100	3,000	<500
		08/14/02	19	40,000	2,200	1,800	1,800	5,400	<200	<200	<200	2,000	<1,000
		11/13/02	12	49,000	2,700	2,400	2,300	7,400	<200	<200	<200	2,200	<1,000
		02/14/03	2.6	7,500	330	450	370	1,300	<50	<50	<50	300	<100
		05/13/03	2.3	5,300	190	280	260	870	<100	<100	<100	230	<500
		08/15/03	1.9	4,800	200	200	320	800	<25	<25	<25	260	<50
		12/10/03	1.4	6,200	400	860	300	1,100	<25	<25	<25	640	200
		03/09/04	1.4	4,800	440	660	230	760	<50	<50	<50	870	<100
		05/20/04	0.70	3,100	320	260	160	420	<5.0	<5.0	<5.0	730	76
		07/28/04	<0.50	1,600	180	50	94	160	<50	<50	<50	680	<100

**TABLE 4:
SUMMARY OF
GROUNDWATER ANALYTICAL RESULTS,
G&M Oil Company Station No. 16**

	Sample ID	Sample Date	Volatile Organic Compounds						Oxygenates				
			EPHs (mg/l)	VFHs (u g/l)	Benzene (u g/l)	Toluene (u g/l)	Ethylbenzene (u g/l)	Xylenes (u g/l)	DIPE (u g/l)	ETBE (u g/l)	TAME (u g/l)	MTBE (u g/l)	TBA (u g/l)
ON-SITE WELLS	W-4	11/14/01	3.5	7,300	3,400	330	480	710	<500	<500	<500	8,000	<2,500
		02/14/02	Well W-4 not sampled on this date, product observed in well.										
		05/21/02	Well W-4 not sampled on this date, product observed in well.										
		08/14/02	Well W-4 not sampled on this date, product observed in well.										
		11/13/02	Well W-4 not sampled on this date, product observed in well.										
		02/13/03	Well W-4 not sampled on this date, product observed in well.										
		05/13/03	Well W-4 not sampled on this date, product observed in well.										
		08/15/03	0.77	1,300	7.6	<5.0	<5.0	21	<50	<50	<50	850	<100
		12/09/03	2.4	5,500	150	31	10	43	<50	<50	<50	1,800	530
		03/09/04	<0.50	290	85	<20	<20	<40	<200	<200	<200	4,400	<400
	W-5	05/20/04	<0.50	880	220	10	<10	<20	<100	<100	<100	3,300	400
		07/28/04	<0.50	400	130	<20	<20	<40	<200	<200	<200	2,100	690
		11/14/01	<0.50	1,100	120	100	74	140	<5.0	<5.0	<5.0	110	26
		02/15/02	<0.50	530	56	68	44	52	<5.0	<5.0	<5.0	190	110
		05/21/02	4.5	16,000	180	630	470	1,800	<50	<50	<50	150	<250
		08/14/02	Well W-5 not sampled on this date, product observed in well.										
		11/13/02	Well W-5 not sampled on this date, product observed in well.										
		02/13/03	Well W-5 not sampled on this date, product observed in well.										
		05/12/03	34	12,000	290	200	450	640	<1000	<1000	<1000	870	<5000
		08/14/03	12	5,400	120	67	280	460	<20	<20	<20	150	46
		12/10/03	6.1	5,000	290	35	250	180	<20	<20	<20	630	210
	W-6	03/09/04	0.68	1,600	230	14	100	37	<100	<100	<100	910	<200
		05/20/04	1.1	2,700	450	9.6	250	37	<50	<50	<50	1,100	210
		07/28/04	0.78	2,100	340	<10	230	21	<100	<100	<100	860	210
		11/14/01	<0.50	820	140	100	72	150	<5.0	<5.0	<5.0	13	<25
		02/15/02	<0.50	420	100	93	21	55	<5.0	<5.0	<5.0	10	<25
		05/21/02	<0.50	<50	2.4	<0.50	<0.50	<1.0	<5.0	<5.0	<5.0	<5.0	<25
		08/14/02	<0.50	<50	4.6	3.4	0.50	2.8	<5.0	<5.0	<5.0	<5.0	<25
		11/13/02	<0.50	<50	2.3	3.0	<0.50	1.9	<5.0	<5.0	<5.0	<5.0	<25
		2/2/13/03	<0.50	94	<0.50	<0.50	<0.50	<1.0	<5.0	<5.0	<5.0	<5.0	<10
		05/13/03	<0.50	<50	<0.50	<0.50	<0.50	<1.5	<5.0	<5.0	<5.0	<1.0	<25
		08/14/03	<0.50	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<5.0	<5.0	<5.0	<10
		12/09/03	<0.50	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<5.0	<5.0	<5.0	<10
		03/09/04	<0.50	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<5.0	<5.0	90	<10
		05/20/04	<0.50	<50	<5.0	<5.0	<5.0	<10	<50	<50	<50	1,300	<100
		07/28/04	<0.50	<50	<10	<10	<10	<20	<100	<100	<100	1,000	<200

**TABLE 4:
SUMMARY OF
GROUNDWATER ANALYTICAL RESULTS,
G&M Oil Company Station No. 16**

	Sample ID	Sample Date	Volatile Organic Compounds						Oxygenates				
			EFHs (mg/l)	VFHs (u g/l)	Benzene (u g/l)	Toluene (u g/l)	Ethylbenzene (u g/l)	Xylenes (u g/l)	DIPE (u g/l)	ETBE (u g/l)	TAME (u g/l)	MTBE (u g/l)	TBA (u g/l)
ON-SITE WELLS	W-7	11/13/01	<0.50	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<5.0	<5.0	280	64
		02/14/02	<0.50	470	21	46	43	110	<5.0	<5.0	<5.0	180	74
		05/21/02	<0.50	170	<5.0	12	6.0	25	<50	<50	<50	850	290
		08/14/02	<0.50	120	5.7	<5.0	<5.0	<10	<50	<50	<50	1,000	<250
		11/13/02	<0.50	160	<5.0	<5.0	<5.0	<10	<50	<50	<50	800	<250
		02/14/03	<0.50	<50	<5.0	<5.0	<5.0	<10	<50	<50	<50	470	<100
		05/13/03	<0.50	<50	<0.50	<0.50	<0.50	<1.5	<5.0	<5.0	5.2	209	75
		08/15/03	0.71	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<5.0	<5.0	160	20
		12/10/03	<0.50	<50	<2.0	<2.0	<2.0	<4.0	<20	<20	<20	310	<40
		03/09/04	<0.50	75	<2.0	<2.0	<2.0	<4.0	<20	<20	<20	400	<40
		05/20/04	<0.50	<50	<2.0	<2.0	<2.0	<4.0	<20	<20	<20	310	66
		07/28/04	NA	77	<2.0	<2.0	<2.0	<4.0	<20	<20	<20	170	<40
	W-11	11/14/01	<0.50	730	100	89	53	110	<5.0	<5.0	<5.0	6.5	<25
		02/14/02	<2.5	2,500	370	660	86	340	<5.0	<5.0	<5.0	9.2	<25
		05/21/02	<0.50	50	0.88	<0.50	<0.50	<1.0	<5.0	<5.0	<5.0	<5.0	<25
		08/14/02	<0.50	<50	2.4	1.5	<0.50	1.3	<5.0	<5.0	<5.0	<5.0	<25
		11/13/02	<0.50	<50	0.60	0.65	<0.50	<1.0	<5.0	<5.0	<5.0	<5.0	<25
		02/13/03	<0.50	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<5.0	<5.0	<5.0	<10
		05/12/03	<0.50	<50	<0.50	<0.50	<0.50	<1.5	<5.0	<5.0	<5.0	<1.0	<25
		08/14/03	<0.50	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<5.0	<5.0	<5.0	<10
		12/09/03	1.1	<50	<0.50	0.56	<0.50	2.6	<5.0	<5.0	<5.0	<5.0	<10
		03/09/04	<0.50	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<5.0	<5.0	<5.0	<10
		05/20/04	<0.50	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<5.0	<5.0	<5.0	<10
		07/28/04	<0.50	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<5.0	<5.0	<5.0	<10
OFF-SITE WELLS	W-8	11/13/01	<0.50	300	<2.0	<2.0	<2.0	<4.0	270	<20	<20	21	<100
		02/15/02	<0.50	630	45	100	25	68	190	<20	<20	<20	<100
		05/21/02	<0.50	490	10	<0.50	<0.50	<1.0	180	<5.0	<5.0	16	110
		08/14/02	<0.50	290	3.6	2.6	<2.0	6.9	280	<20	<20	<20	110
		11/12/02	<0.50	210	<1.0	<1.0	<1.0	<2.0	210	<10	<10	<10	100
		02/13/03	<0.50	110	<1.0	<1.0	<1.0	<2.0	200	<10	<10	17	78
		05/12/03	<0.50	<50	<0.50	<0.50	<0.50	<1.5	9.2	<5.0	<5.0	4.3	<25
		08/14/03	0.59	210	<0.50	<0.50	<0.50	<1.0	160	<5.0	<5.0	<5.0	51
		12/09/03	<0.50	120	0.67	<0.50	<0.50	<1.0	130	<5.0	<5.0	20	54
		03/10/04	<0.50	270	<0.50	<0.50	<0.50	<1.0	150	<5.0	<5.0	7.3	64
		05/21/04	<0.50	60	<1.0	<1.0	<1.0	<2.0	190	<10	<10	<10	52
		07/27/04	<0.50	120	<1.0	<1.0	<1.0	<2.0	120	<10	<10	<10	<20

**TABLE 4:
SUMMARY OF
GROUNDWATER ANALYTICAL RESULTS,
G&M Oil Company Station No. 16**

	Sample ID	Sample Date	Volatile Organic Compounds						Oxygenates				
			EFHs (mg/l)	VFHs (u g/l)	Benzene (u g/l)	Toluene (u g/l)	Ethylbenzene (u g/l)	Xylenes (u g/l)	DIPE (u g/l)	ETBE (u g/l)	TAME (u g/l)	MTBE (u g/l)	TBA (u g/l)
OFF-SITE WELLS	W-9	11/14/01	<0.50	1,900	1,400	130	68	72	27	<5.0	<5.0	6,400	740
		02/15/02	<0.50	1,600	600	180	48	100	<200	<200	<200	3,900	<1000
		05/21/02	0.52	4,000	2,700	<50	61	<100	<500	<500	<500	14,000	<2,500
		08/14/02	0.79	5,200	3,900	<100	<100	<200	<1,000	<1,000	<1,000	18,000	<5,000
		11/12/02	<0.50	700	360	<10	29	<20	<100	<100	<100	2,600	<500
		02/13/03	<0.50	470	140	<10	33	<20	<100	<100	<100	1,800	710
		05/12/03	<0.50	210	110	<10	<10	<30	<100	<100	<100	2,400	500
		08/14/03	<0.50	390	260	<25	<25	<50	<250	<250	<250	3,300	<500
		12/10/03	<0.50	350	120	<25	33	<50	<250	<250	<250	2,900	570
		03/09/04	<0.50	230	30	<25	<25	<50	<250	<250	<250	4,500	<500
		05/21/04	<0.50	190	<50	<50	<50	<100	<500	<500	<500	3,100	<1,000
		07/27/04	<0.50	410	54	<50	<50	<100	<500	<500	<500	5,300	<1,000
	W-10	11/13/01	<0.50	97	17	<0.50	<0.50	1.4	12	<5.0	<5.0	80	61
		02/14/02	<0.50	74	2.3	0.66	<0.50	<1.0	9	<5.0	<5.0	150	80
		05/21/02	<0.50	59	2.3	<2.0	<2.0	<4.0	<20	<20	<20	270	120
		08/14/02	<0.50	54	3.0	<2.0	<2.0	<4.0	<20	<20	<20	310	<100
		11/12/02	<0.50	73	<2.0	<2.0	<2.0	<4.0	<20	<20	<20	320	<100
		02/13/03	<0.50	68	<2.0	<2.0	<2.0	<4.0	<20	<20	<20	390	94
		05/12/03	<0.50	<50	<2.5	<2.5	<2.5	<7.5	<25	<25	<25	390	190
		08/14/03	<0.50	<50	<2.0	<2.0	<2.0	<4.0	<20	<20	<20	510	<40
		12/09/03	<0.50	<50	<2.0	<2.0	<2.0	<4.0	<20	<20	<20	610	210
		03/10/04	<0.50	<50	<2.0	<2.0	<2.0	<4.0	<20	<20	<20	710	<40
		05/21/04	<0.50	<50	<2.5	<2.5	<2.5	<5.0	<25	<25	<25	680	<50
		07/27/04	<0.50	<50	<10	<10	<10	<20	<100	<100	<100	1,200	<200
	W-12	11/13/01	<0.50	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<5.0	<5.0	<5.0	<25
		02/14/02	<0.50	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<5.0	<5.0	<5.0	<25
		05/21/02	<0.50	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<5.0	<5.0	<5.0	<25
		08/14/02	<0.50	<50	7.2	0.97	<0.50	<1.0	<5.0	<5.0	<5.0	<5.0	<25
		11/12/02	<0.50	<50	0.52	0.57	<0.50	<1.0	<5.0	<5.0	<5.0	<5.0	<25
		02/13/03	<0.50	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<5.0	<5.0	<5.0	<10
		05/12/03	<0.50	<50	<0.50	<0.50	<0.50	<1.5	<5.0	<5.0	<5.0	4.8	<25
		08/14/03	<0.50	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<5.0	<5.0	<5.0	<10
		12/09/03	<0.50	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<5.0	<5.0	9.4	<10
		03/10/04	<0.50	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<5.0	<5.0	<5.0	<10
		05/21/04	<0.50	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<5.0	<5.0	<5.0	<10
		07/27/04	<0.50	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<5.0	<5.0	<5.0	<10

**TABLE 4:
SUMMARY OF
GROUNDWATER ANALYTICAL RESULTS,
G&M Oil Company Station No. 16**

	Sample ID	Sample Date	Volatile Organic Compounds						Oxygenates				
			EFHs (mg/l)	VFHs (u g/l)	Benzene (u g/l)	Toluene (u g/l)	Ethylbenzene (u g/l)	Xylenes (u g/l)	DIPE (u g/l)	ETBE (u g/l)	TAME (u g/l)	MTBE (u g/l)	TBA (u g/l)
OFF-SITE WELLS	MW-13	05/12/03	<0.50	<50	1.0	<0.50	<0.50	<1.5	<5.0	<5.0	<5.0	9.8	<25
		08/14/03	1.0	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<5.0	<5.0	<5.0	<10
		12/09/03	<0.50	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<5.0	<5.0	7.6	<10
		03/10/04	<0.50	<50	<0.50	<0.50	<0.50	<1.0	<5.0	<5.0	<5.0	6.1	<10
		05/21/04	<0.50	<50	<5.0	<5.0	<5.0	<10	<50	<50	<50	680	<100
		07/27/04	<0.50	<50	<12	<12	<12	<25	<120	<120	<120	1,400	<250
	MW-14	05/12/03	<0.50	<50	<10	<10	<10	<30	<100	<100	<100	1,700	<500
		08/14/03	<0.50	<50	<5.0	<5.0	<5.0	<10	<50	<50	<50	1,300	<100
		12/10/03	<0.50	<50	<5.0	5.1	<5.0	15	<50	<50	<50	1,500	180
		03/09/04	<0.50	<50	<10	<10	<10	<20	<100	<100	<100	1,700	<200
		05/20/04	<0.50	<50	<2.5	<2.5	<2.5	<5.0	<25	<25	<25	790	<50
		07/27/04	<0.50	<50	<5.0	<5.0	<5.0	<10	<50	<50	<50	1,100	<100
	MW-15	05/12/03	<0.50	<50	2.6	<0.50	<0.50	<1.5	<5.0	<5.0	<5.0	96	27
		08/14/03	<0.50	74	<10	<10	<10	<20	<100	<100	<100	1,200	230
		12/09/03	<0.50	97	<10	<10	<10	<20	<100	<100	<100	2,200	780
		03/10/04	<0.50	59	<2.0	<2.0	<2.0	<4.0	<20	<20	<20	510	110
		05/21/04	<0.50	<50	<2.0	<2.0	<2.0	<4.0	<20	<20	<20	290	69
		07/27/04	<0.50	<50	<2.0	<2.0	<2.0	<4.0	<20	<20	<20	190	<40
	MW-16	05/12/03	<0.50	<50	<0.50	<0.50	<0.50	<1.5	<5.0	<5.0	<5.0	50	<25
		08/14/03	<0.50	<50	<2.0	<2.0	<2.0	<4.0	<20	<20	<20	410	<40
		12/09/03	<0.50	<50	<2.0	<2.0	<2.0	<4.0	<20	<20	<20	490	74
		03/10/04	<0.50	<50	<2.0	<2.0	<2.0	<4.0	<20	<20	<20	380	<40
		05/21/04	<0.50	<50	<2.5	<2.5	<2.5	<5.0	<25	<25	<25	330	<50
		07/27/04	<0.50	<50	<5.0	<5.0	<5.0	11	<50	<50	<50	590	<100

Notes:

EFH = Extractable Fuel Hydrocarbons, analyzed by EPA 3510C/8015 CADHS Modified
VFH = Volatile Fuel Hydrocarbons, analyzed by EPA 5030/8015 CADHS Modified
BTEX and Oxygenates analyzed by EPA Method 8260B
NA = Sample Not Analyzed

u g/l = micrograms per liter or parts per billion
m g/l = milligrams per liter or parts per million

DTW = Depth to Water Surface
SWE = Static Water Elevation

TABLE 5: SUMMARY OF PHYSICAL CHARACTERISTICS AND CHEMICAL PROPERTIES
G&M Oil Company Station No. 16, Whittier, CA

Sample ID	Sample Date	pH	DO (mg/l)	ORP (mV)	Specific Conductivity (uS/cm)	Sulfate (mg/l)	Nitrate (mg/l)	Ferrous Iron (mg/l)	Dissolved Methane*
W-1	2/13/2003	7.46	14.2**	<-99	--	39	<0.11	3.6	47
	5/13/2003	--	54.0**	<-99	--	840	<0.55	2.8	<0.50
	8/15/2003	--	--	--	--	940	2.3	0.080	<0.50
	12/9/2003	7.78	4.05	-126	--	5	<0.11	0.770	0.71
	3/9/2004	7.60	1.20	-98	--	9.6	<0.11	1.1	0.66
	5/20/2004	6.91	3.00	-205	1800	16	<0.11	0.28	0.99
	7/28/2004	6.88	0.31	-101	2510	6.1	<0.11	0.71	0.99
W-2	2/14/2003	6.77	17.9**	96	--	570	<0.22	2.8	150
	5/12/2003	7.28	48.23**	<-99	--	920	8.0	0.045	<0.50
	8/14/2003	--	--	--	--	860	3.5	<0.040	<0.50
	12/10/2003	7.47	2.87	42	--	880	3.1	<0.040	<0.050
	3/9/2004	7.13	0.57	-98	--	200	<0.11	7.9	0.82
	5/20/2004	6.86	4.84	-129	2000	150	<0.11	6.0	1.1
	7/28/2004	6.90	0.99	-86	2290	190	<0.11	5.8	0.61
W-3	2/14/2003	6.58	22.1**	67	--	<0.50	<0.11	4.3	--
	5/12/2003	--	46.3**	-60.7	--	0.64	<0.11	0.77	<0.50
	8/14/2003	--	--	--	--	<0.50	<0.11	2.8	0.52
	12/10/2003	7.06	2.80	-82	--	1.2	<0.11	0.41	0.46
	3/9/2004	6.89	0.97	<-99	--	<0.50	<0.11	8.8	0.51
	5/20/2004	6.64	3.19	-96	1500	<0.50	<0.11	9.7	0.28
	7/28/2004	6.81	1.95	-30	2430	0.82	<0.11	9.1	0.34
W-4	2/14/2003	7.42	44.4*	<-99	--	89	<0.11	4.3	56
	5/13/2003	--	--	--	--	650	<0.55	2.3	<0.50
	8/15/2003	--	--	--	--	690	0.50	<0.040	<0.50
	12/9/2003	8.63	2.69	16	--	160	<0.11	<0.040	0.057
	3/9/2004	7.98	5.20	21	--	190	<0.11	<0.040	0.051
	5/20/2004	7.00	8.37	-205	1800	30	<0.11	0.77	0.14
	7/28/2004	6.80	1.00	-39	2440	6.1	<0.11	4.4	0.088
W-5	2/13/2003	6.76	14.5**	<-99	--	310	<0.22	0.13	30
	5/12/2003	7.96	52.3**	<-99	--	380	<0.22	0.085	<0.50
	8/14/2003	--	--	--	--	480	<0.22	0.16	<0.50
	12/10/2003	7.30	3.07	-168	--	360	<0.22	<0.040	<0.050
	3/9/2004	7.35	0.81	<-99	--	300	<0.11	0.046	<0.050
	5/20/2004	7.47	2.30	-135	2400	350	<0.11	<0.040	<0.050
	7/28/2004	6.93	0.17	-95	2950	310	<0.22	0.11	<0.050
W-6	2/13/2003	--	--	--	--	--	--	--	--
	5/12/2003	--	--	--	--	--	--	--	--
	8/14/2003	--	--	--	--	--	--	--	--
	12/10/2003	--	--	--	--	--	--	--	--
	3/9/2004	--	--	--	--	--	--	--	--
	5/20/2004	7.87	1.81	140	2400	--	--	--	--
	7/28/2004	6.28	1.88	206	2450	--	--	--	--

TABLE 5: SUMMARY OF PHYSICAL CHARACTERISTICS AND CHEMICAL PROPERTIES
G&M Oil Company Station No. 16, Whittier, CA

Sample ID	Sample Date	pH	DO (mg/l)	ORP (mV)	Specific Conductivity (uS/cm)	Sulfate (mg/l)	Nitrate (mg/l)	Ferrous Iron (mg/l)	Dissolved Methane*
W-7	2/13/2003	--	--	--	--	--	--	--	--
	5/12/2003	--	--	--	--	--	--	--	--
	8/14/2003	--	--	--	--	--	--	--	--
	12/10/2003	--	--	--	--	--	--	--	--
	3/9/2004	--	--	--	--	--	--	--	--
	5/20/2004	8.24	6.15	-11	3200	--	--	--	--
	7/28/2004	6.58	0.91	41	2610	--	--	--	--
W-8	2/13/2003	6.63	13.7**	-3.2	--	1,500	<2.2	2.9	11
	5/12/2003	7.85	56.7**	80.3	--	980	12	<0.040	<0.50
	8/14/2003	--	--	--	--	920	12	<0.040	<0.50
	12/9/2003	8.23	5.53	102	--	1,600	<0.55	1.3	<0.050
	3/10/2004	7.12	1.10	35	--	1,900	0.37	<0.040	<0.050
	5/21/2004	6.97	4.71	25	3500	1,900	0.45	0.042	<0.050
	7/27/2004	6.38	2.81	153	3180	1,800	1.2	<0.040	<0.050
W-9	2/13/2003	7.03	13.5**	-5.8	--	340	<0.11	<0.040	23
	5/12/2003	--	56.1**	14.3	--	670	2.1	<0.040	<0.50
	8/14/2003	7.93	2.47	220	--	220	<0.11	<0.040	<0.50
	12/10/2003	7.49	2.20	65	--	120	<0.11	<0.040	0.058
	3/9/2004	7.31	1.31	-33	--	90	<0.11	0.17	0.098
	5/21/2004	7.15	6.13	-55	2500	59	<0.11	<0.040	0.054
	7/27/2004	6.48	0.22	97	2530	56	<0.11	<0.040	0.063
W-10	2/13/2003	--	--	--	--	--	--	--	--
	5/12/2003	--	--	--	--	--	--	--	--
	8/14/2003	--	--	--	--	--	--	--	--
	12/10/2003	--	--	--	--	--	--	--	--
	3/9/2004	--	--	--	--	--	--	--	--
	5/21/2004	7.81	4.61	123	3000	--	--	--	--
	7/27/2004	6.18	2.69	198	3630	--	--	--	--
W-11	2/13/2003	--	--	--	--	--	--	--	--
	5/12/2003	--	--	--	--	--	--	--	--
	8/14/2003	--	--	--	--	--	--	--	--
	12/9/2003	--	--	--	--	--	--	--	--
	3/10/2004	--	--	--	--	--	--	--	--
	5/12/2004	7.88	5.21	9	2400	--	--	--	--
	7/27/2004	6.27	2.13	193	2630	--	--	--	--
W-12	2/13/2003	6.83	45**	123	--	980	11	<0.040	5.8
	5/12/2003	7.81	47.7**	37	--	940	8.1	<0.040	<0.50
	8/14/2003	7.70	2.45	256	--	920	3.8	<0.040	<0.50
	12/9/2003	7.57	2.81	102	--	940	7.8	<0.040	<0.050
	3/10/2004	7.12	1.78	140	--	970	9.8	<0.040	<0.050
	5/12/2004	6.87	3.69	100	2400	890	7.3	<0.040	<0.050
	7/27/2004	6.15	1.75	220	2580	870	6.7	<0.040	<0.050

TABLE 5: SUMMARY OF PHYSICAL CHARACTERISTICS AND CHEMICAL PROPERTIES
G&M Oil Company Station No. 16, Whittier, CA

Sample ID	Sample Date	pH	DO (mg/l)	ORP (mV)	Specific Conductivity (uS/cm)	Sulfate (mg/l)	Nitrate (mg/l)	Ferrous Iron (mg/l)	Dissolved Methane*
MW-13	5/12/2003	--	--	--	--	--	--	--	--
	8/14/2003	--	--	--	--	--	--	--	--
	12/9/2003	--	--	--	--	--	--	--	--
	3/10/2004	--	--	--	--	--	--	--	--
	5/12/2004	7.64	4.67	144	2500	--	--	--	--
	7/27/2004	6.23	0.63	211	2470	--	--	--	--
MW-14	5/12/2003	--	--	--	--	--	--	--	--
	8/14/2003	--	--	--	--	--	--	--	--
	12/9/2003	--	--	--	--	--	--	--	--
	3/10/2004	--	--	--	--	--	--	--	--
	5/12/2004	8.00	7.25	24	1700	--	--	--	--
	7/27/2004	6.33	3.91	214	1980	--	--	--	--
MW-15	5/12/2003	--	--	--	--	--	--	--	--
	8/14/2003	--	--	--	--	--	--	--	--
	12/9/2003	--	--	--	--	--	--	--	--
	3/10/2004	--	--	--	--	--	--	--	--
	5/12/2004	7.94	5.45	98	2700	--	--	--	--
	7/27/2004	6.30	2.82	171	2760	--	--	--	--
MW-16	5/12/2003	--	--	--	--	--	--	--	--
	8/14/2003	--	--	--	--	--	--	--	--
	12/9/2003	--	--	--	--	--	--	--	--
	3/10/2004	--	--	--	--	--	--	--	--
	5/12/2004	7.72	3.39	92	1400	--	--	--	--
	7/27/2004	6.58	1.37	175	--	--	--	--	--

Notes:

* Results reported in Methane By Headspace in ug/l units.

** Values are suspect. Meter malfunction is probable cause.

-- = not tested

DO = Dissolved Oxygen

ORP = Oxidation Reduction Potential

<0.050 = Less than the indicated laboratory detection limit

uS/cm = microsiemens per centimeter

Values of pH, DO, ORP, and Specific Conductivity for July 27 and 28, 2004 were collected using the post-purge sample.

TABLE 6
SUMMARY OF HISTORICAL GROUNDWATER ANALYTICAL RESULTS
G&M Oil Company Station No. 16
Whittier, CA
(Concentration, ug/L)

Well ID	Date Sampled	TPH _g (VFH)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	MTBE (8260B)	ETBE	DIPE	TAME	TBA
W-1	10/09/97	LPH	--	--	--	--	--	--	--	--	--	--
	03/20/98	LPH	--	--	--	--	--	--	--	--	--	--
	05/29/98	LPH	--	--	--	--	--	--	--	--	--	--
	09/11/98	LPH	--	--	--	--	--	--	--	--	--	--
	12/14/98	LPH	--	--	--	--	--	--	--	--	--	--
	03/12/99	LPH	--	--	--	--	--	--	--	--	--	--
	06/29/99	LPH	--	--	--	--	--	--	--	--	--	--
	09/27/99	LPH	--	--	--	--	--	--	--	--	--	--
	12/17/99	LPH	--	--	--	--	--	--	--	--	--	--
	02/17/00	LPH	--	--	--	--	--	--	--	--	--	--
	05/16/00	--	--	--	--	--	--	--	--	--	--	--
	08/08/00	LPH	--	--	--	--	--	--	--	--	--	--
	11/30/00	LPH	--	--	--	--	--	--	--	--	--	--
	02/08/01	LPH	--	--	--	--	--	--	--	--	--	--
	08/23/01	--	--	--	--	--	--	--	--	--	--	--
W-2	11/13/01	44000	21000	11000	2000	4700	--	39000	<2500	<2500	<2500	<12000
	02/14/02	42000	9200	9200	1200	3900	--	7200	<500	<500	<500	<2500
	10/09/97	51300	4480	3600	970	6410	12300	15300	--	--	--	--
	03/20/98	1700	713	310	53	550	12000	8820	--	--	--	--
	05/29/98	8920	117	23	29	46	6800	7080	--	--	--	--
	09/11/98	3600	7.4	<1.5	1.5	7.8	3000	3600	--	--	--	--
	12/14/98	3740	26.2	3.6	4.3	5.9	2640	2160	--	--	--	--
	03/12/99	44400	7730	34.7	2200	48	26600	27500	--	--	--	--
	06/29/99	20500	3870	<0.3	17	<0.6	14000	13700	--	--	--	--
	09/27/99	3970	102	40.7	<15	62.7	1130	980	--	--	--	--
	12/17/99	1120	99.4	1.3	3.4	2.5	883	884	--	--	--	--
	02/17/00	822	22.7	1.6	2.9	5.3	712	785	--	--	--	--
	05/16/00	6260	588	8.6	109	121	5210	6190	--	--	--	--
	08/08/00	1230	22.4	<3.0	4.0	<6.0	1160	1270	--	--	--	--
	11/30/00	12600	1450	102	406	388	--	9710	<40	<40	<40	250
W-3	02/08/01	19600	2350	100	885	665	--	10400	<100	<100	<100	500
	08/23/01	9500	1800	<100	1000	200	--	8900	<1000	<1000	<1000	<5000
	11/13/01	14000	1900	1400	1100	1700	--	5100	<250	<250	<250	<1200
	02/14/02	10000	170	140	360	410	--	<5.0	<5.0	<5.0	<5.0	<25
	10/09/97	64300	3540	18400	1700	12800	1400	1200	--	--	--	--
	03/20/98	51500	2600	12000	1200	13000	1800	1400	--	--	--	--
	05/29/98	62000	32800	16200	2400	13300	1440	1340	--	--	--	--
	09/11/98	58600	2500	14000	2570	13500	1300	1550	--	--	--	--
	12/14/98	70300	2240	12100	3220	14800	925	908	--	--	--	--
	03/12/99	43000	1740	8430	2960	13000	959	735	--	--	--	--
	06/29/99	45500	1730	4480	2860	9870	1010	1010	--	--	--	--
	09/27/99	43200	2050	3730	2730	8510	1530	846	--	--	--	--
	12/17/99	LPH	--	--	--	--	--	--	--	--	--	--
	02/17/00	LPH	--	--	--	--	--	--	--	--	--	--
	05/16/00	--	--	--	--	--	--	--	--	--	--	--
	08/08/00	LPH	--	--	--	--	--	--	--	--	--	--
	11/30/00	LPH	--	--	--	--	--	--	--	--	--	--
	02/08/01	LPH	--	--	--	--	--	--	--	--	--	--
	08/24/01	4300	270	90	320	610	--	390	<12	<12	<12	<62
	11/14/01	14000	1600	1100	990	2600	--	1099	<100	<100	<100	<500
	02/14/02	7700	780	650	510	1400	--	440	<50	<50	<50	<500

TABLE 6
SUMMARY OF HISTORICAL GROUNDWATER ANALYTICAL RESULTS
G&M Oil Company Station No. 16
Whittier, CA
(Concentration, ug/L)

Well ID	Date Sampled	TPHg (VFH)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	MTBE (8260B)	ETBE	DIPE	TAME	TBA
W-4	03/20/98	68000	5000	10600	1230	12000	25000	19000	--	--	--	--
	05/29/98	LPH	--	--	--	--	--	--	--	--	--	--
	09/11/98	LPH	--	--	--	--	--	--	--	--	--	--
	12/14/98	LPH	--	--	--	--	--	--	--	--	--	--
	03/12/99	LPH	--	--	--	--	--	--	--	--	--	--
	06/29/99	LPH	--	--	--	--	--	--	--	--	--	--
	09/27/99	LPH	--	--	--	--	--	--	--	--	--	--
	12/17/99	LPH	--	--	--	--	--	--	--	--	--	--
	02/17/00	LPH	--	--	--	--	--	--	--	--	--	--
	05/16/00	--	--	--	--	--	--	--	--	--	--	--
	08/08/00	LPH	--	--	--	--	--	--	--	--	--	--
	11/30/00	LPH	--	--	--	--	--	--	--	--	--	--
	02/08/01	LPH	--	--	--	--	--	--	--	--	--	--
	08/24/01	--	--	--	--	--	--	--	--	--	--	--
W-5	11/14/01	7300	3400	330	480	710	--	8000	<500	<500	<500	<2500
	02/14/02	Well W-4 not sampled on this date, product observed in well.										
	03/20/98	24700	1450	2140	3	4730	530	375	--	--	--	--
	05/29/98	LPH	--	--	--	--	--	--	--	--	--	--
	09/11/98	LPH	--	--	--	--	--	--	--	--	--	--
	12/14/98	LPH	--	--	--	--	--	--	--	--	--	--
	03/12/99	LPH	--	--	--	--	--	--	--	--	--	--
	06/29/99	LPH	--	--	--	--	--	--	--	--	--	--
	09/27/99	LPH	--	--	--	--	--	--	--	--	--	--
	12/17/99	LPH	--	--	--	--	--	--	--	--	--	--
	02/17/00	LPH	--	--	--	--	--	--	--	--	--	--
	05/16/00	LPH	--	--	--	--	--	--	--	--	--	--
	08/08/00	LPH	--	--	--	--	--	--	--	--	--	--
	11/30/00	LPH	--	--	--	--	--	--	--	--	--	--
W-6	02/08/01	1270	420	6.5	39.3	31.3	--	35.8	<5.0	<5.0	<5.0	<25
	08/23/01	--	--	--	--	--	--	--	--	--	--	--
	11/14/01	1100	120	100	74	140	--	110	<5.0	<5.0	<5.0	26
	02/15/02	530	56	68	44	57	--	190	<5.0	<5.0	<5.0	110
	03/20/98	51	<0.3	<0.3	<0.6	1.2	6.1	3.7	--	--	--	--
	05/29/98	130	3.3	21	3.5	26	7.8	6.0	--	--	--	--
	09/11/98	<50	<0.3	<0.3	<0.6	<0.6	<1.0	--	--	--	--	--
	12/14/98	<50	<0.3	<0.3	<0.6	<0.6	<1.0	--	--	--	--	--
	03/12/99	<50	<0.3	<0.3	<0.3	<0.6	<1.0	--	--	--	--	--
	06/29/99	<50	<0.3	<0.3	<0.3	<0.6	<1.0	--	--	--	--	--
	09/27/99	<50	<0.3	1.1	<0.3	1.3	3.2	1.02	--	--	--	--
	12/17/99	<50	<0.3	<0.3	<0.3	<0.6	<1.0	--	--	--	--	--
	02/17/00	<50	<0.3	0.6	<0.3	<0.6	1.5	2.5	--	--	--	--
	05/16/00	100	1.9	4.2	3.4	22.8	29	27	--	--	--	--
	08/08/00	<50	<0.3	<0.3	<0.3	<0.6	<1.0	--	--	--	--	--
	11/30/00	331	60	63.5	50.4	115	--	4.3	<2.0	<2.0	<2.0	<10
	02/08/01	<50	3.8	7.9	4.2	10.3	--	<2.0	<2.0	<2.0	<2.0	<10
	08/23/01	<50	<0.50	<0.50	<0.50	<1.0	--	<5.0	<5.0	<5.0	<5.0	<25
	11/14/01	820	140	100	72	150	--	13	<5.0	<5.0	<5.0	<25
	02/15/02	420	100	93	21	55	--	10	<5.0	<5.0	<5.0	<25

TABLE 6
SUMMARY OF HISTORICAL GROUNDWATER ANALYTICAL RESULTS
G&M Oil Company Station No. 16
Whittier, CA
(Concentration, ug/L)

Well ID	Date Sampled	TPHg (VFH)	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	MTBE (8260B)	ETBE	DIPE	TAME	TBA
W-7	03/20/98	2000	9.8	2.9	2.8	40	855	770	--	--	--	--
	05/29/98	1800	10	25	6.2	23	612	625	--	--	--	--
	09/11/98	630	0.6	0.6	1.4	<0.6	290	360	--	--	--	--
	12/14/98	640	1.1	1.3	1.1	1.0	196	170	--	--	--	--
	03/12/99	367	0.4	1.3	1.4	2.3	166	158	--	--	--	--
	06/29/99	414	0.3	<0.3	<0.3	<0.6	204	200	--	--	--	--
	09/27/99	393	2.7	1.1	0.5	1.7	191	205	--	--	--	--
	12/17/99	458	4.1	<0.3	1.5	<0.6	250	260	--	--	--	--
	02/17/00	653	6.4	0.4	1.3	<0.6	353	364	--	--	--	--
	05/16/00	236	1.4	3.4	3.1	19.7	156	174	--	--	--	--
	08/08/00	113	<0.3	<0.3	<0.3	<0.6	95.1	95.3	--	--	--	--
	11/30/00	501	78.1	59.5	60.6	124	--	14	<2.0	<2.0	<2.0	<10
	02/08/01	482	4.0	8.4	5.1	12.7	--	280	<2.0	<2.0	<2.0	<10
	08/23/01	<50	<0.50	<0.50	<0.50	<1.0	--	90	<5.0	<5.0	<5.0	44
	11/13/01	<50	<0.50	<0.50	<0.50	<1.0	--	280	<5.0	<5.0	<5.0	64
	02/14/02	470	21	46	43	110	--	180	<5.0	<5.0	<5.0	64
W-8	03/18/99	228	1.1	0.4	3.0	8.0	72	66	--	--	--	--
	06/29/99	390	<0.3	0.5	0.4	0.6	40	38	--	--	--	--
	09/27/99	522	5.7	1.1	1.4	2.1	11.2	6.6	--	--	--	--
	12/17/99	345	4.3	<0.3	4.1	2.3	39.3	41	--	--	--	--
	02/17/00	496	1.1	2.3	3.2	4.4	80.7	74.5	--	--	--	--
	05/16/00	447	25.1	5.7	8.4	29.2	52.5	51	--	--	--	--
	08/08/00	284	<0.3	0.4	<0.3	<0.6	24	20.6	--	--	--	--
	11/30/00	507	59.1	73.2	31.4	99.9	--	27.4	<2.0	191	<2.0	31.5
	02/08/01	359	20.3	9.5	15.2	21	--	43.6	<2.0	101	<2.0	16
	08/24/01	120	<0.50	<0.50	<0.50	<1.0	--	76	<5.0	120	<5.0	59
	11/13/01	300	<2.0	<2.0	<2.0	<4.0	--	21	<20	270	<20	<100
	02/15/02	630	45	100	25	68	--	<20	<20	190	<20	<100
W-9	11/14/01	1900	1400	130	68	72	--	6400	<5.0	27	<5.0	740
	02/15/02	1600	600	180	48	100	--	3900	<200	<200	<200	<1000
W-10	11/13/01	97	17	<0.50	<0.50	1.4	--	80	<5.0	12	<5.0	61
	02/14/02	74	2.3	0.66	<0.50	<1.0	--	150	<5.0	9.0	<5.0	80
W-11	11/14/01	730	100	89	53	110	--	6.5	<5.0	273	<5.0	<25
	02/14/02	2500	370	660	86	340	--	9.2	<5.0	<5.0	<5.0	<25
W12	11/13/01	<50	<0.50	<0.50	<2.0	<1.0	--	<5.0	<5.0	<5.0	<5.0	<25
	02/14/02	<50	<0.50	<0.50	<0.50	<1.0	--	<5.0	<5.0	<5.0	<5.0	<25

-- - Not analyzed.

ug/L - micrograms per liter

TPHg - Total Petroleum Hydrocarbons as gasoline, EPA 8015M

VFH - Volatile Fuel Hydrocarbons, EPA 8015 CADHS Modified

EFH - Extractable Fuel Hydrocarbons, EPA 8015 CADHS Modified

< - Less than laboratory detection limits

MTBE - Methyl-tert-Butyl Ether

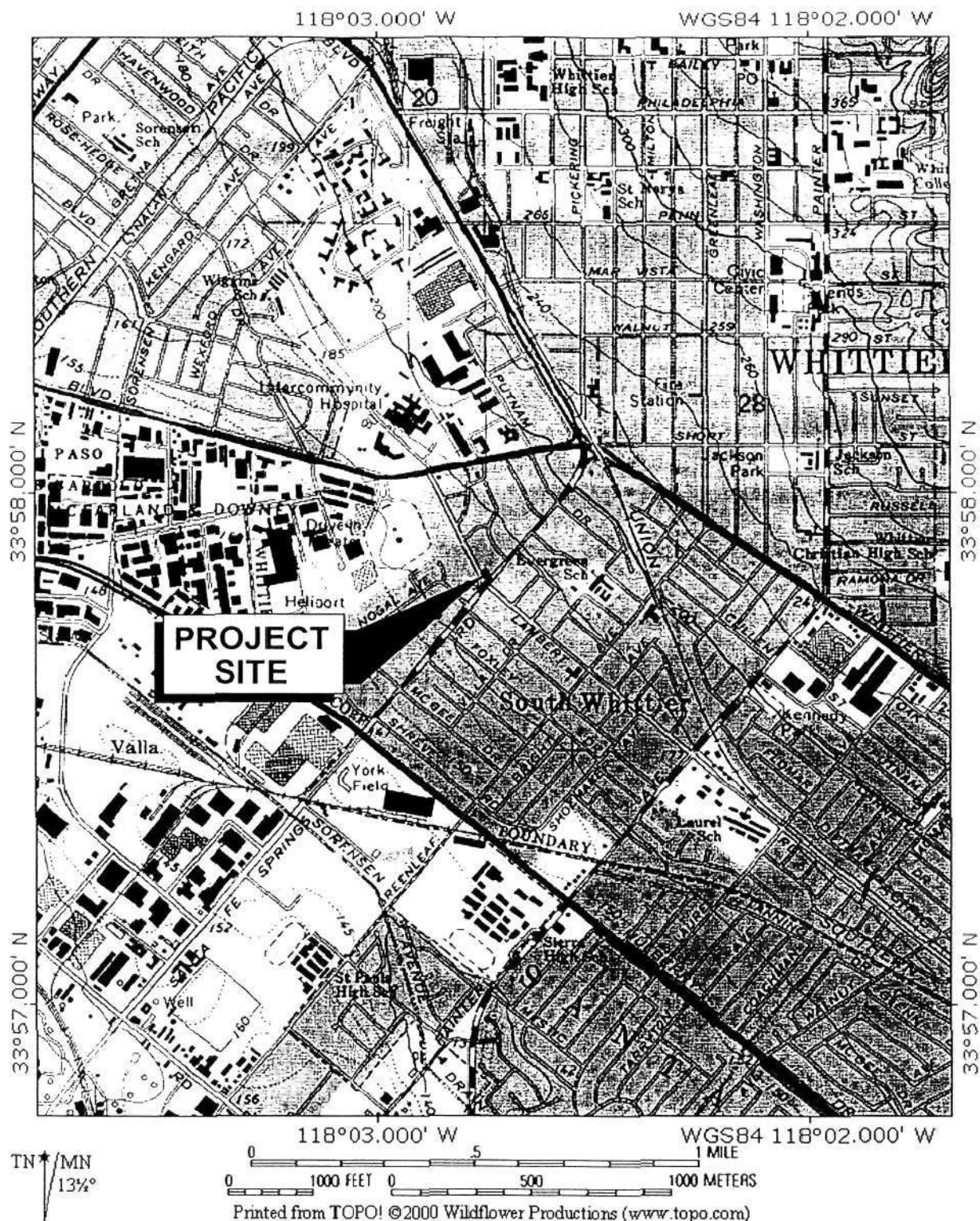
ETBE - Ethyl tert-Butyl Ether

DIPE - Di-isopropyl Ether

TAME - Tert-Amyl-Methyl Ether

TBA - tert-butanol

LPH - Liquid Phase Hydrocarbons



SITE LOCATION MAP

G&M OIL COMPANY, INC.
SERVICE STATION #16
12559 Lambert Road
Whittier, California



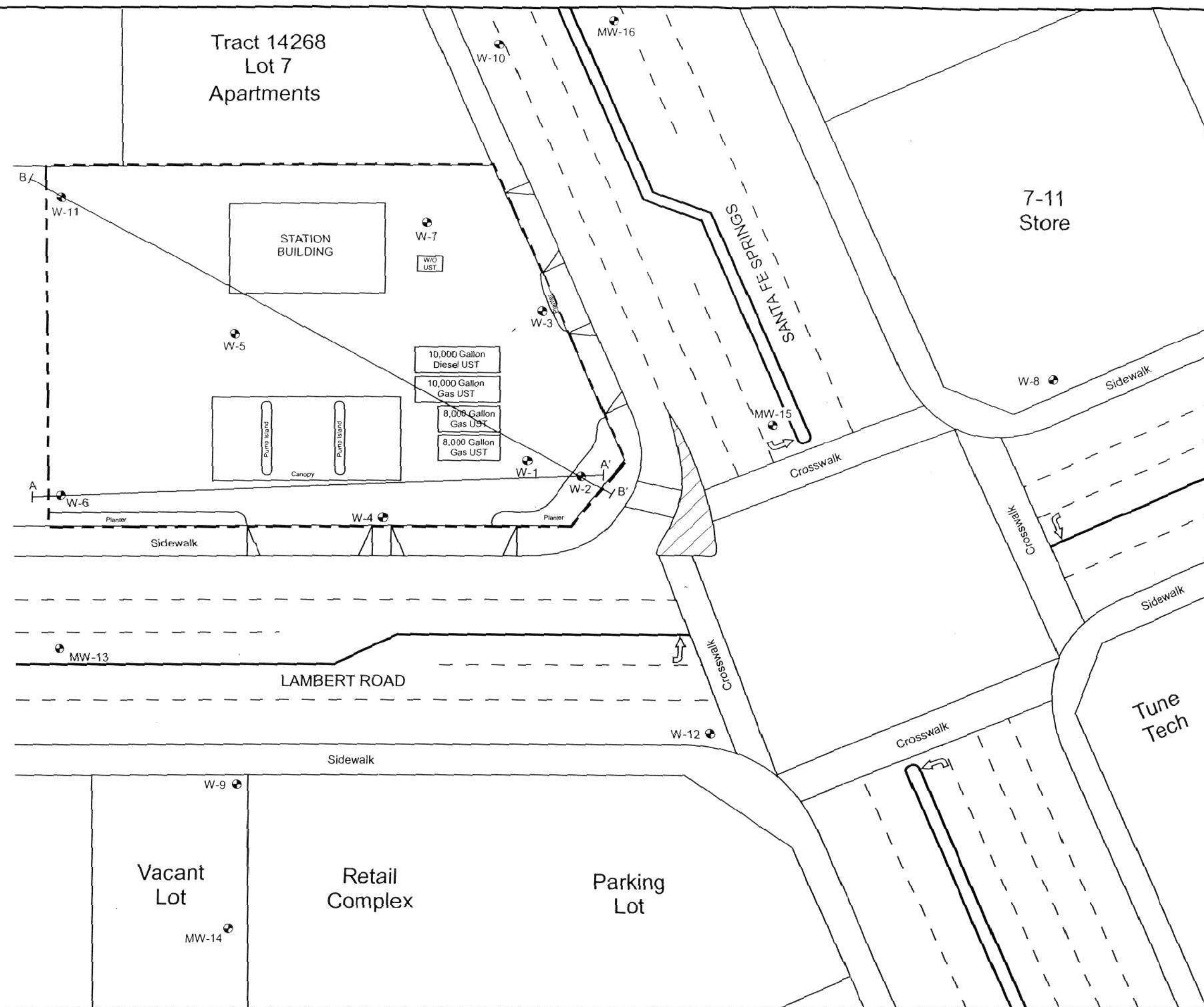
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PROJECT No.
600143002

DATE
October 2004

Figure 1



LEGEND

- Groundwater Monitoring Well
- UST Underground Storage Tank
- W/O Former Waste Oil UST

0 15 30 60
Scale in Feet



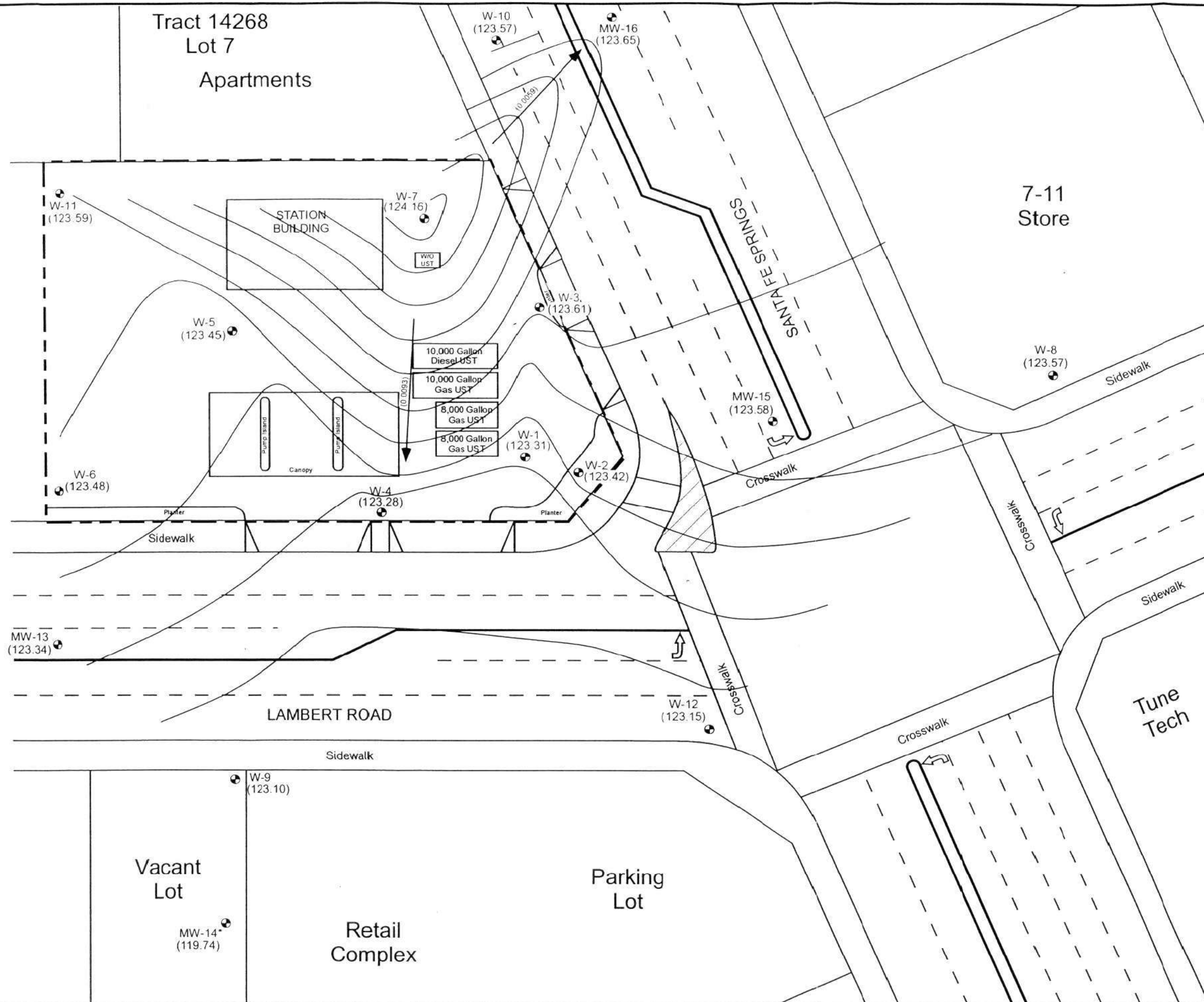
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Engr./Geol.	CM
Drafted By	RJP
Date	October 2004

SITE PLAN

with Cross Section Locations
G&M OIL COMPANY, INC.
SERVICE STATION #16
12559 Lambert Road
Whittier, California
Figure No. 2

Tract 14268
Lot 7
Apartments



LEGEND

- Groundwater Monitoring Well
- UST Underground Storage Tank
- W/O Former Waste Oil UST
- Groundwater Contour and Gradient in Feet per Foot
- (124.16) Groundwater Elevation
- 124.10 Groundwater Contour Elevation
- MW-14* Groundwater Elevation Not Used In Contour Map

0 15 30 60
Scale in Feet



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GROUNDWATER CONTOUR MAP

G&M OIL COMPANY, INC.
SERVICE STATION #16
12559 Lambert Road
Whittier, California
Figure No. 3



12559 LAMBERT ROAD, WHITTIER, 90606

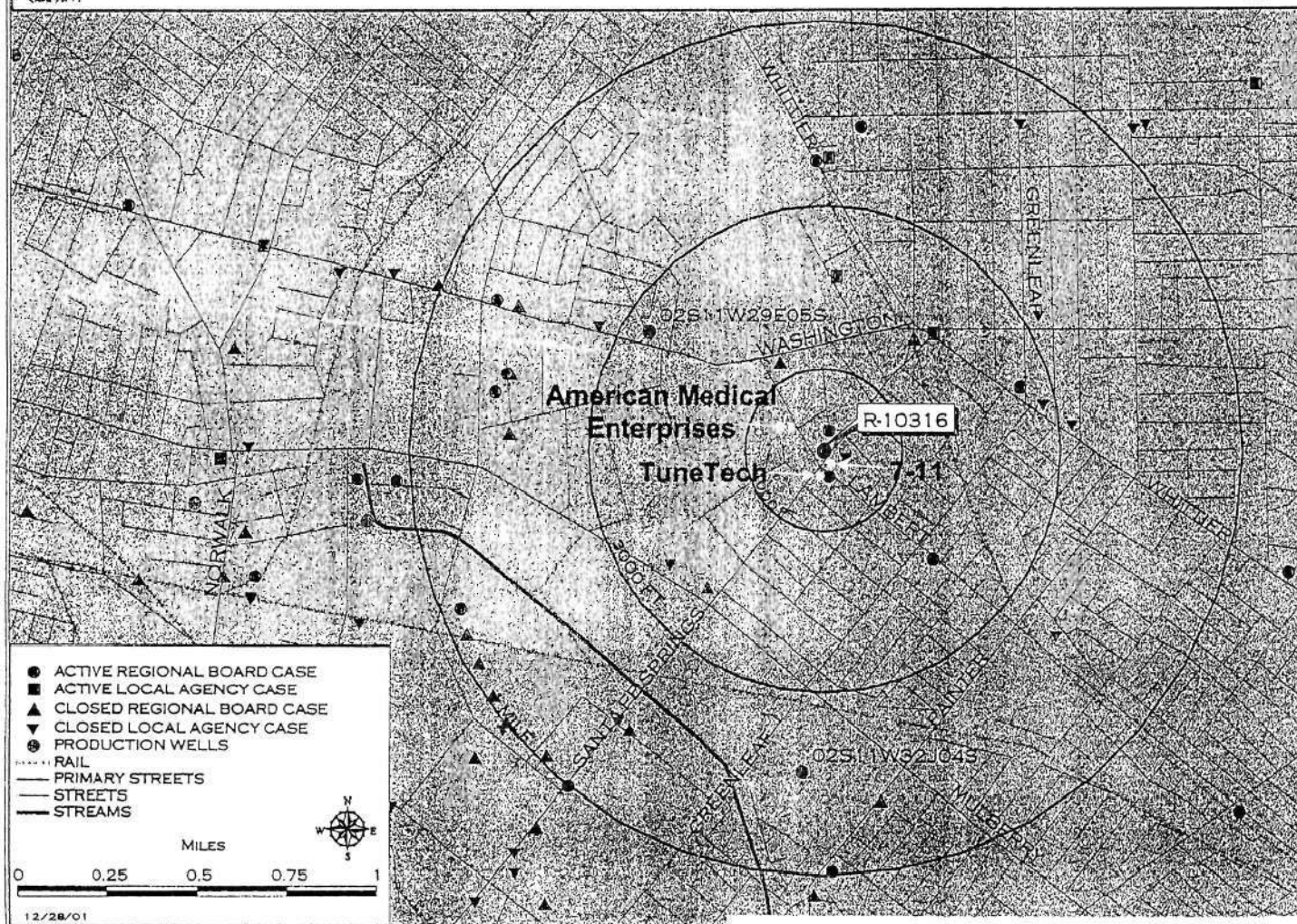


FIGURE 4 - SITE VICINITY MAP WITH RECEPTOR WELLS

SITE VICINITY MAP WITH RECEPTOR WELLS

G&M Oil Company, Inc.
Service Station No. 16
12559 Lambert Road
Whittier, California



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Figure No. 4

Tract 14268
Lot 7
Apartments

7-11
Store

LEGEND

-  Groundwater Monitoring Well
- UST Underground Storage Tank
- W/O Former Waste Oil UST
-  Extent of Total Petroleum Hydrocarbons as Gasoline (TPHg) in Soil

0 15 30 60
Scale in Feet

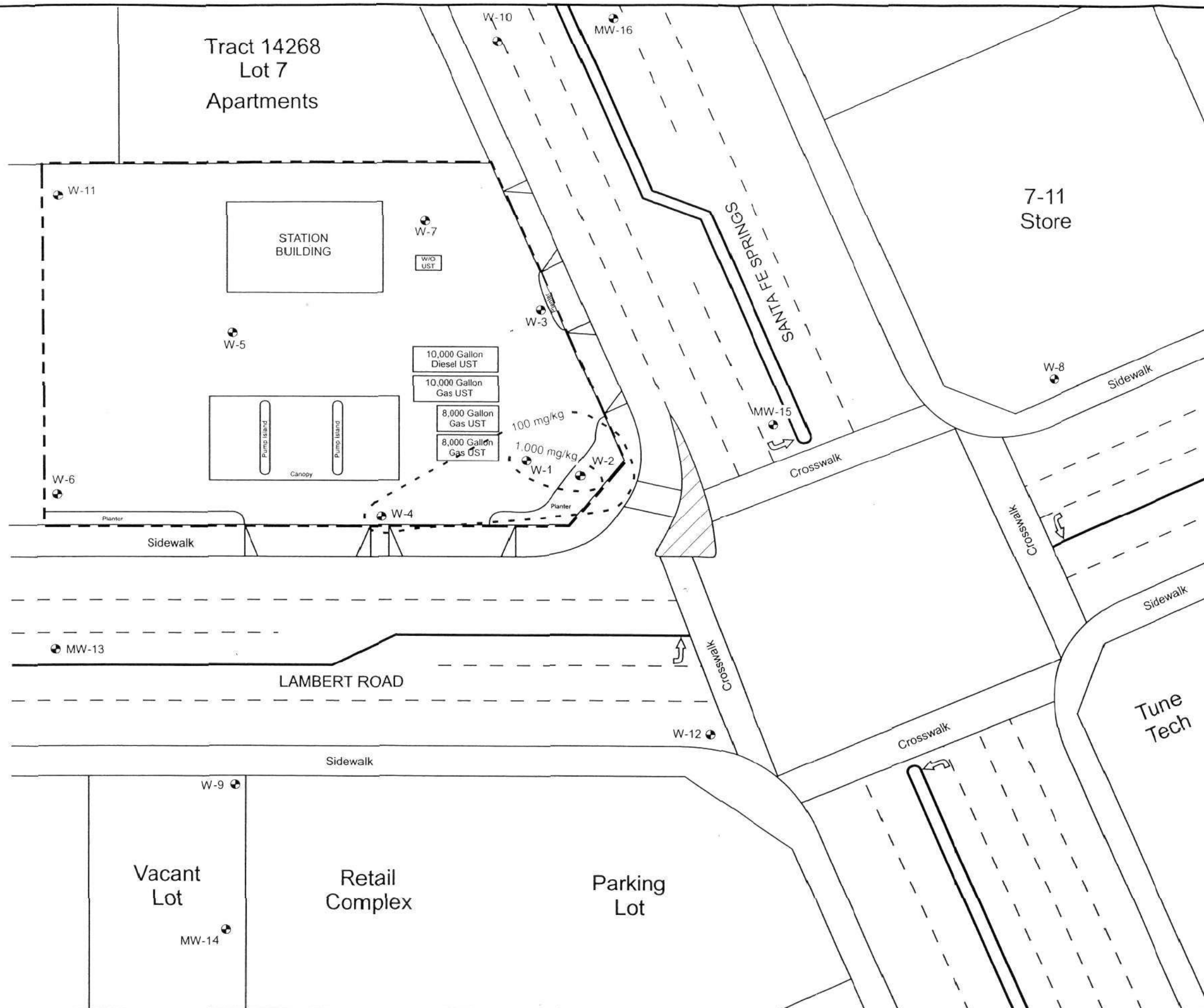


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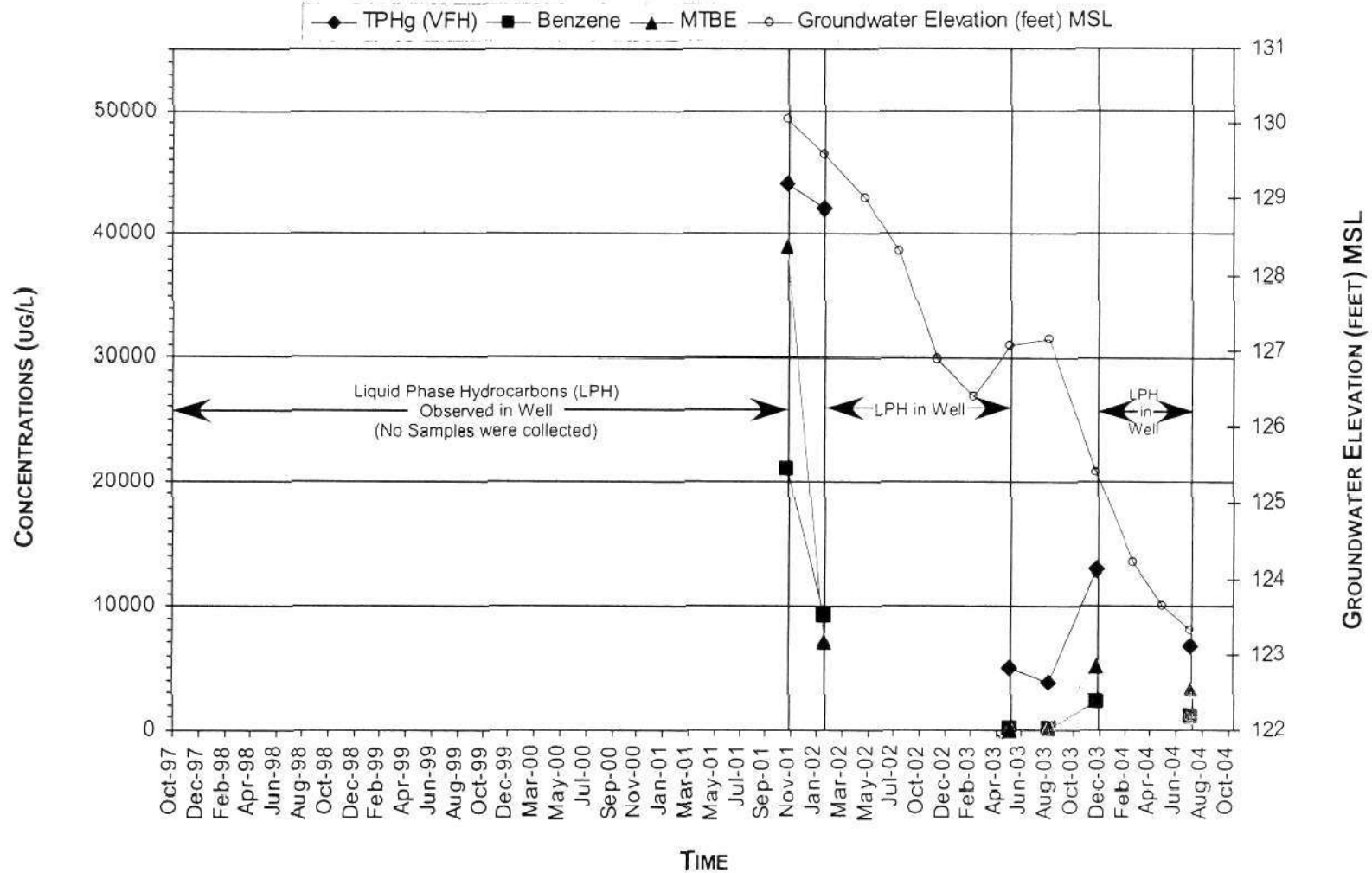
Project No.	600143002
Approx. Scale	1" = 30'
Engr./Geol.	CM
Drafted By	HCB
Date	October 2004

EXTENT OF TPHg IN SOIL

G&M OIL COMPANY, INC.
SERVICE STATION #16
12559 Lambert Road
Whittier, California
Figure No. 6



MONITORING WELL W-1



HYDROCARBON CONCENTRATIONS IN GROUNDWATER VS TIME

G&M Oil Company, Inc.
Service Station No. 16
12559 Lambert Road
Whittier, California



Leighton Consulting, Inc.

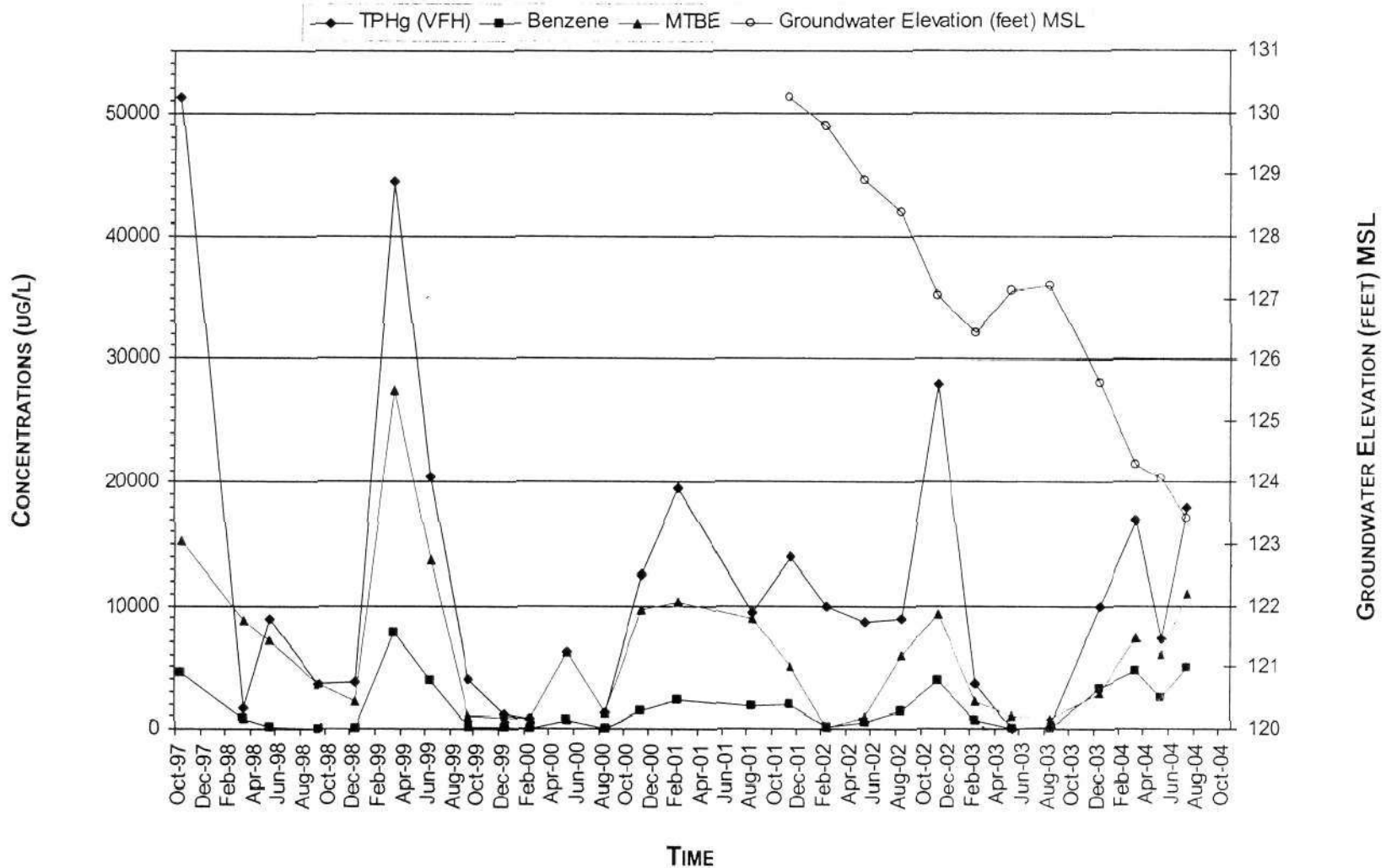
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Engr./Geol.
Drafted By
Date

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Figure No. 9

MONITORING WELL W-2



HYDROCARBON CONCENTRATIONS IN GROUNDWATER VS TIME

G&M Oil Company, Inc.
 Service Station No. 16
 12559 Lambert Road
 Whittier, California



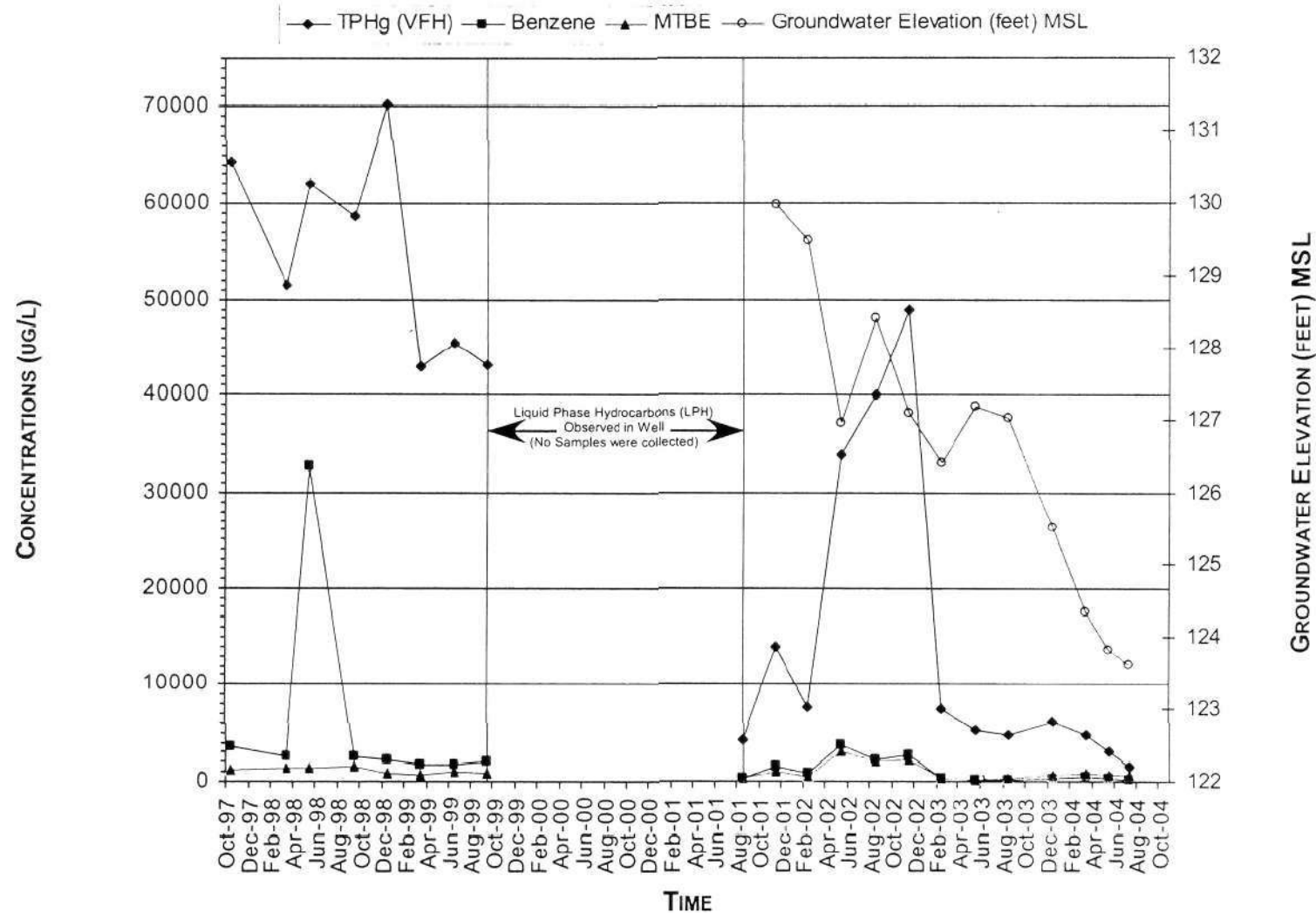
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Figure No. 10

MONITORING WELL W-3



HYDROCARBON CONCENTRATIONS IN GROUNDWATER VS TIME

G&M Oil Company, Inc.
 Service Station No. 16
 12559 Lambert Road
 Whittier, California



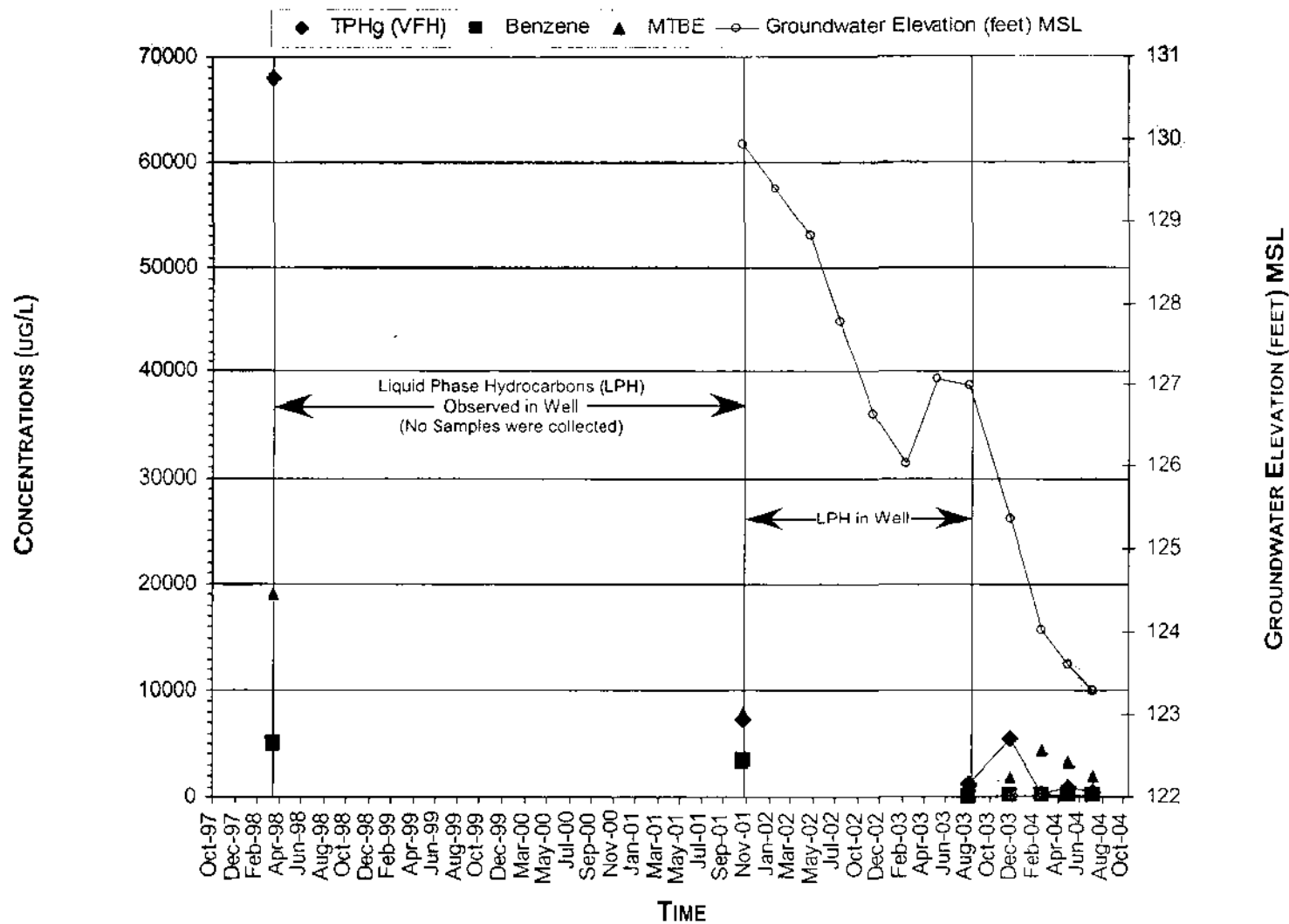
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 Scale N/A
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 Drafted By BFM
 Date October 2004

Figure No. 11

MONITORING WELL W-4



HYDROCARBON CONCENTRATIONS IN GROUNDWATER VS TIME

G&M Oil Company, Inc.
Service Station No. 16
12559 Lambert Road
Whittier, California



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600143002

N/A

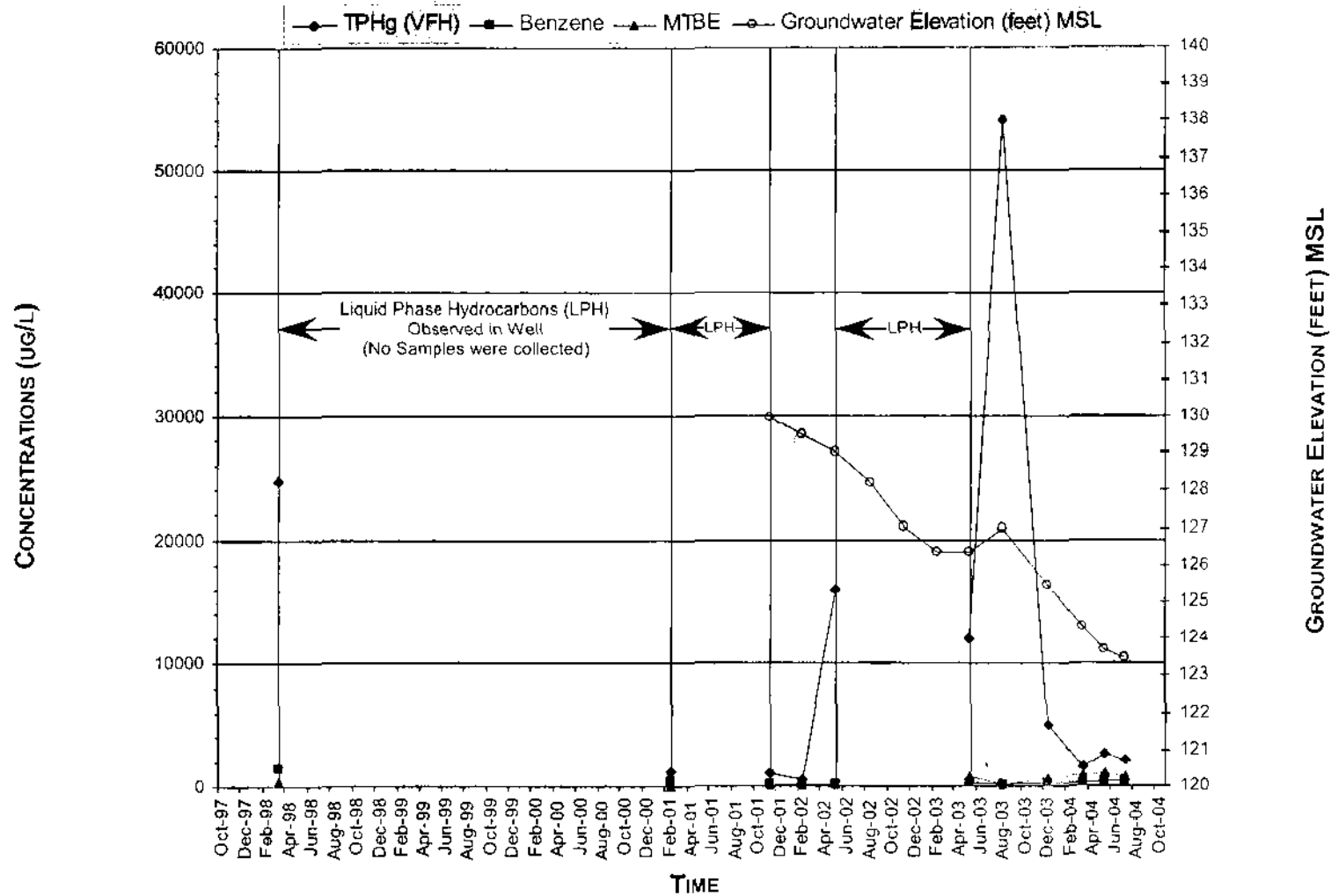
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Figure No. 12

MONITORING WELL W-5



HYDROCARBON CONCENTRATIONS IN GROUNDWATER VS TIME

G&M Oil Company, Inc.
Service Station No. 16
12559 Lambert Road
Whittier, California



Leighton Consulting, Inc.

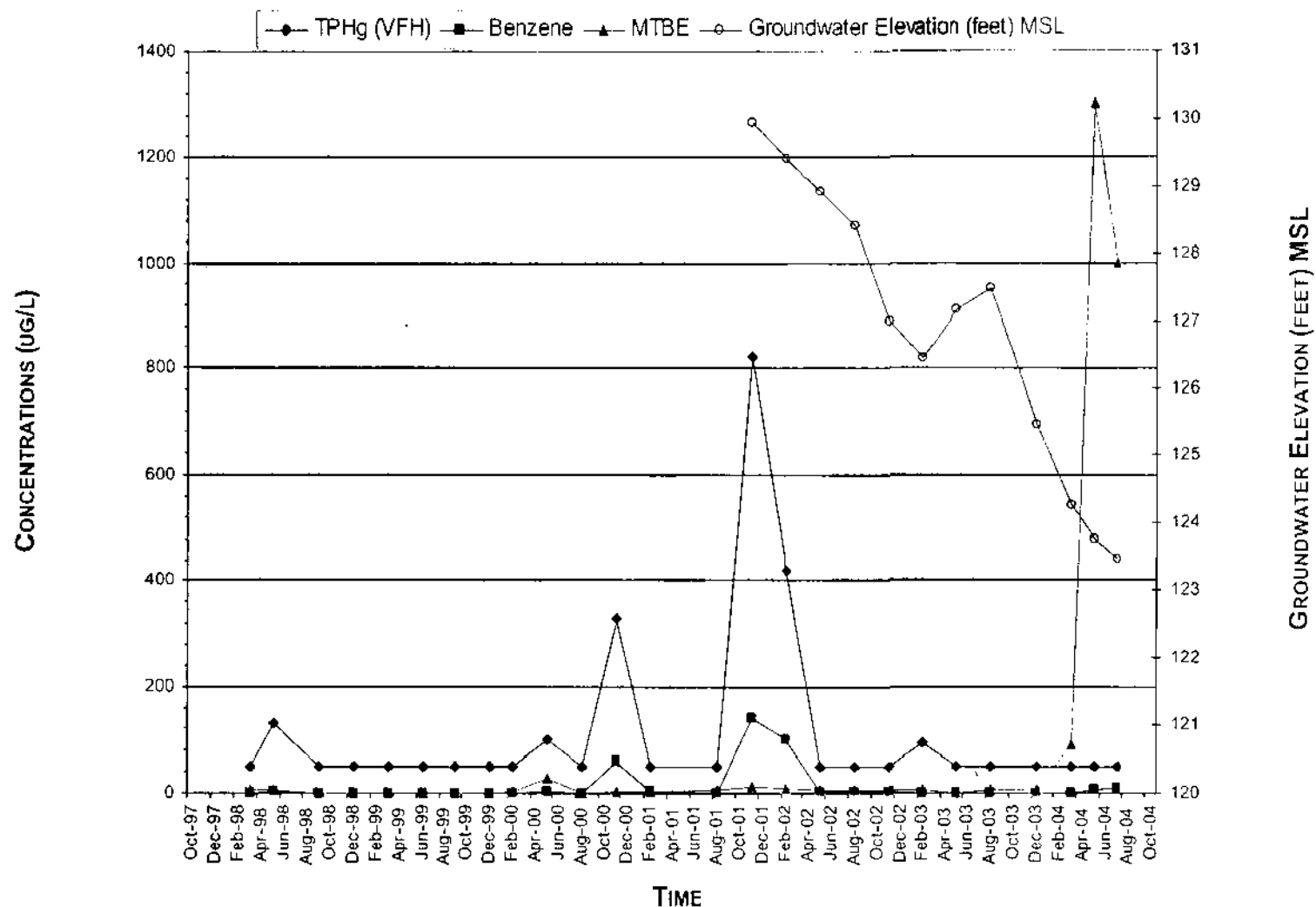
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Scale
Engr./Geol.
Drafted By
Date

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N/A
CM
BFM
October 2004

Figure No. 13

MONITORING WELL W-6



HYDROCARBON CONCENTRATIONS IN GROUNDWATER VS TIME

G&M Oil Company, Inc.
Service Station No. 16
12559 Lambert Road
Whittier, California



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Date

600143002

N/A

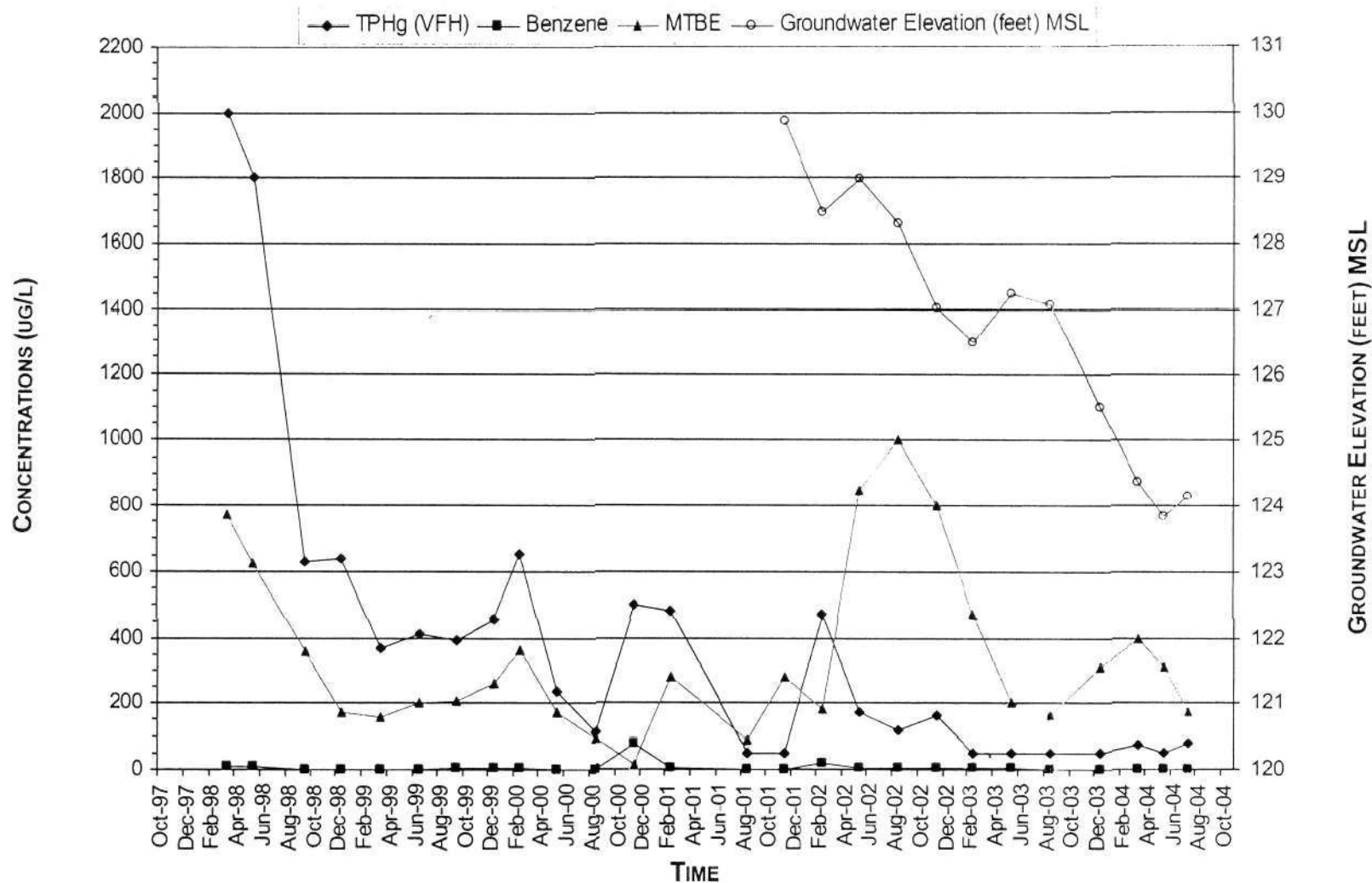
CM

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Figure No. 14

MONITORING WELL W-7



HYDROCARBON CONCENTRATIONS IN GROUNDWATER VS TIME

G&M Oil Company, Inc.
Service Station No. 16
12559 Lambert Road
Whittier, California



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Scale
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Date

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N/A

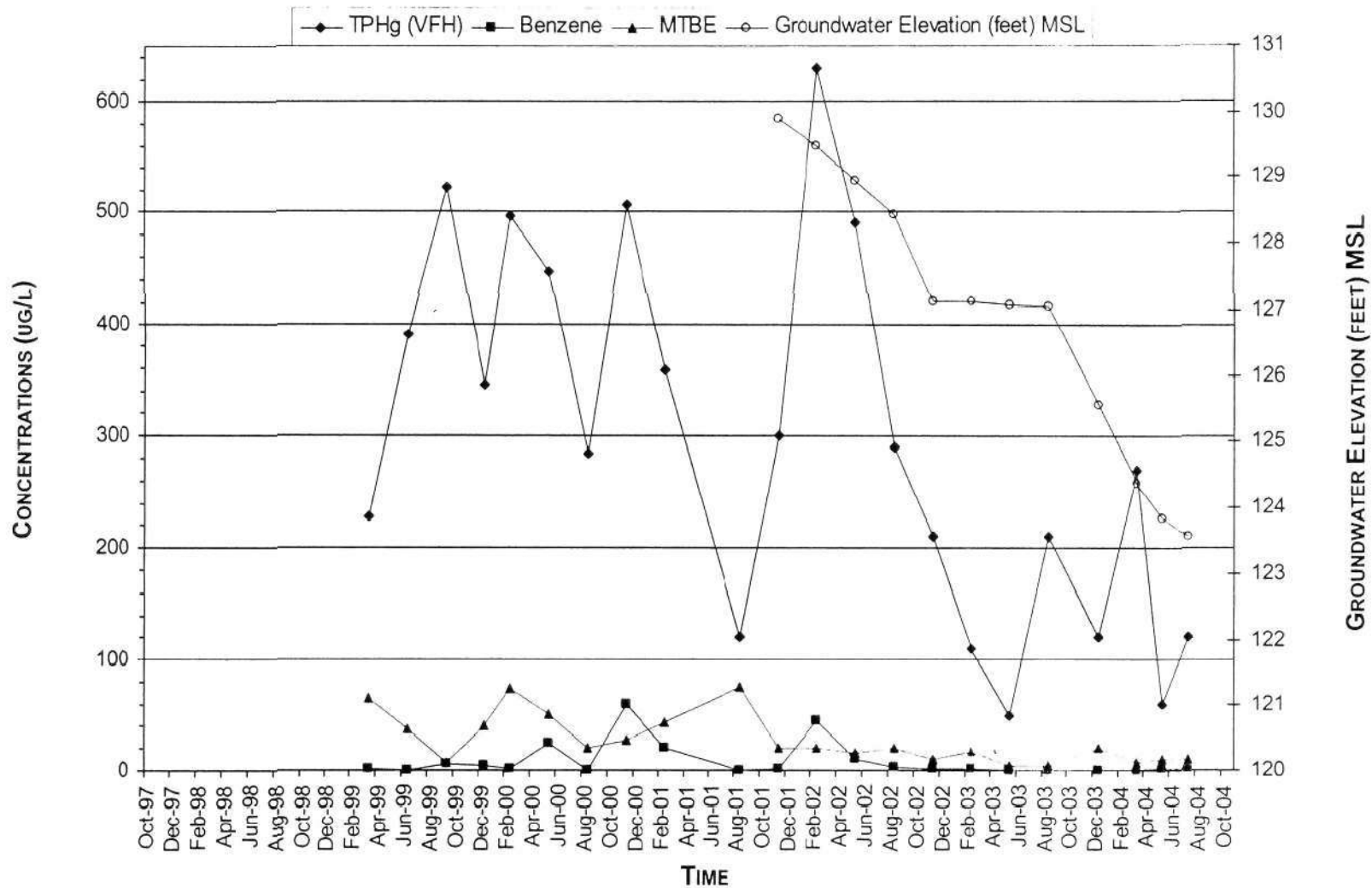
CM

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Figure No. 15

MONITORING WELL W-8



HYDROCARBON CONCENTRATIONS IN GROUNDWATER VS TIME

G&M Oil Company, Inc.
Service Station No. 16
12559 Lambert Road
Whittier, California



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Date

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N/A

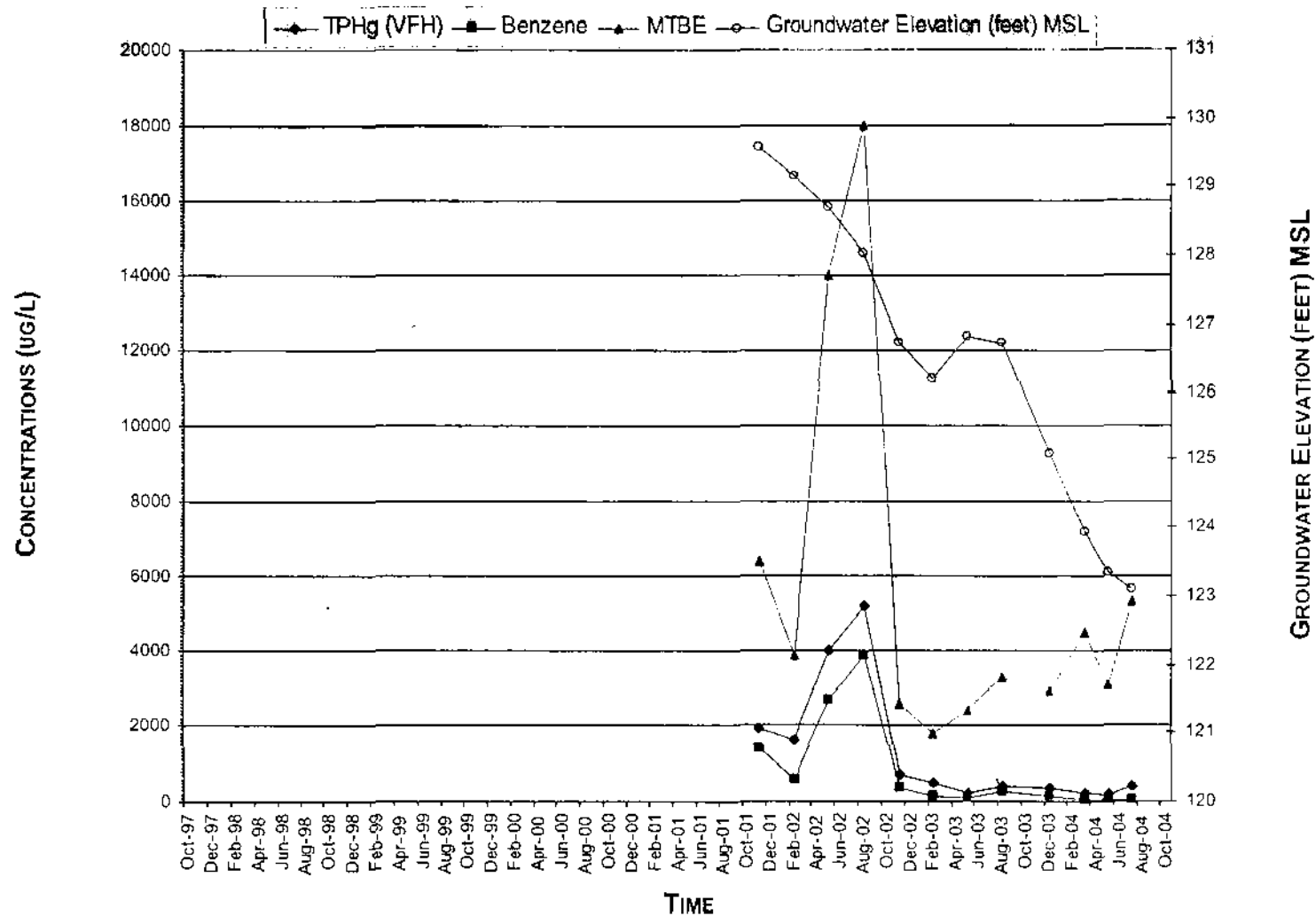
CM

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Figure No. 16

MONITORING WELL W-9



HYDROCARBON CONCENTRATIONS IN GROUNDWATER VS TIME

G&M Oil Company, Inc.
Service Station No. 16
12559 Lambert Road
Whittier, California



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Date

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N/A

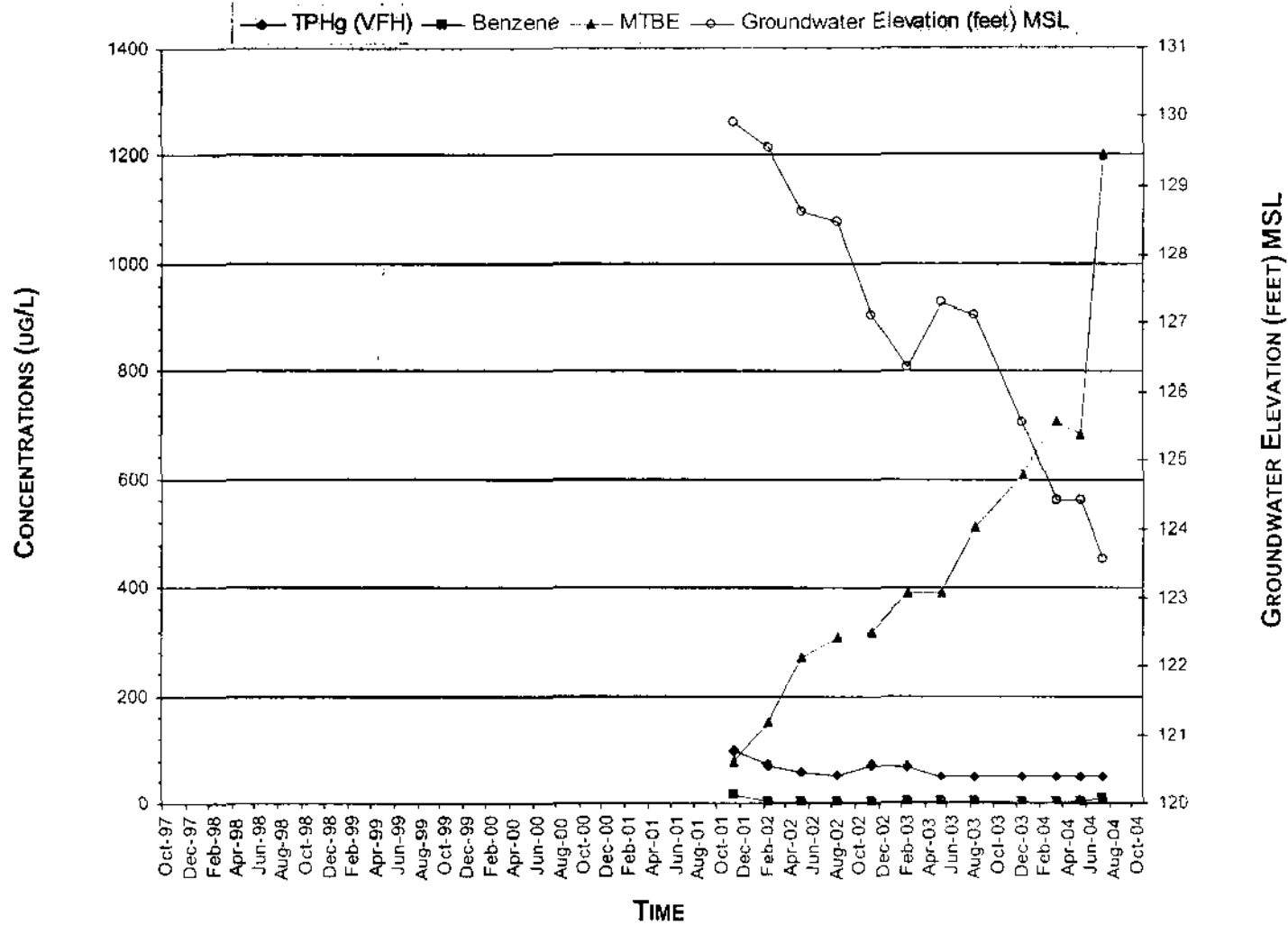
CM

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Figure No. 17

MONITORING WELL W-10



HYDROCARBON CONCENTRATIONS IN GROUNDWATER VS TIME

G&M Oil Company, Inc.
 Service Station No. 16
 12559 Lambert Road
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N/A

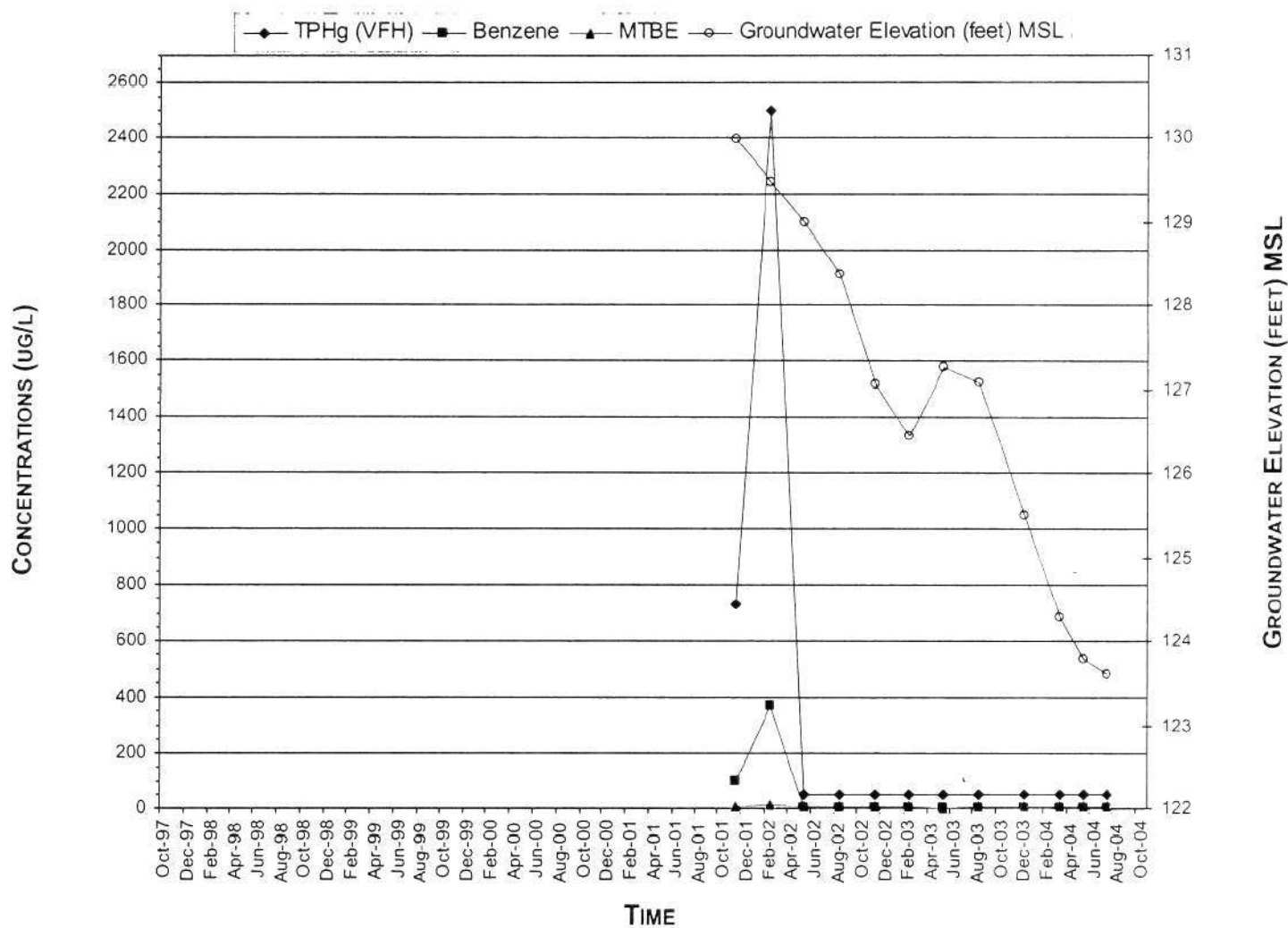
CM

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Figure No. 18

MONITORING WELL W-11



HYDROCARBON CONCENTRATIONS IN GROUNDWATER VS TIME

G&M Oil Company, Inc.
Service Station No. 16
12559 Lambert Road
Whittier, California

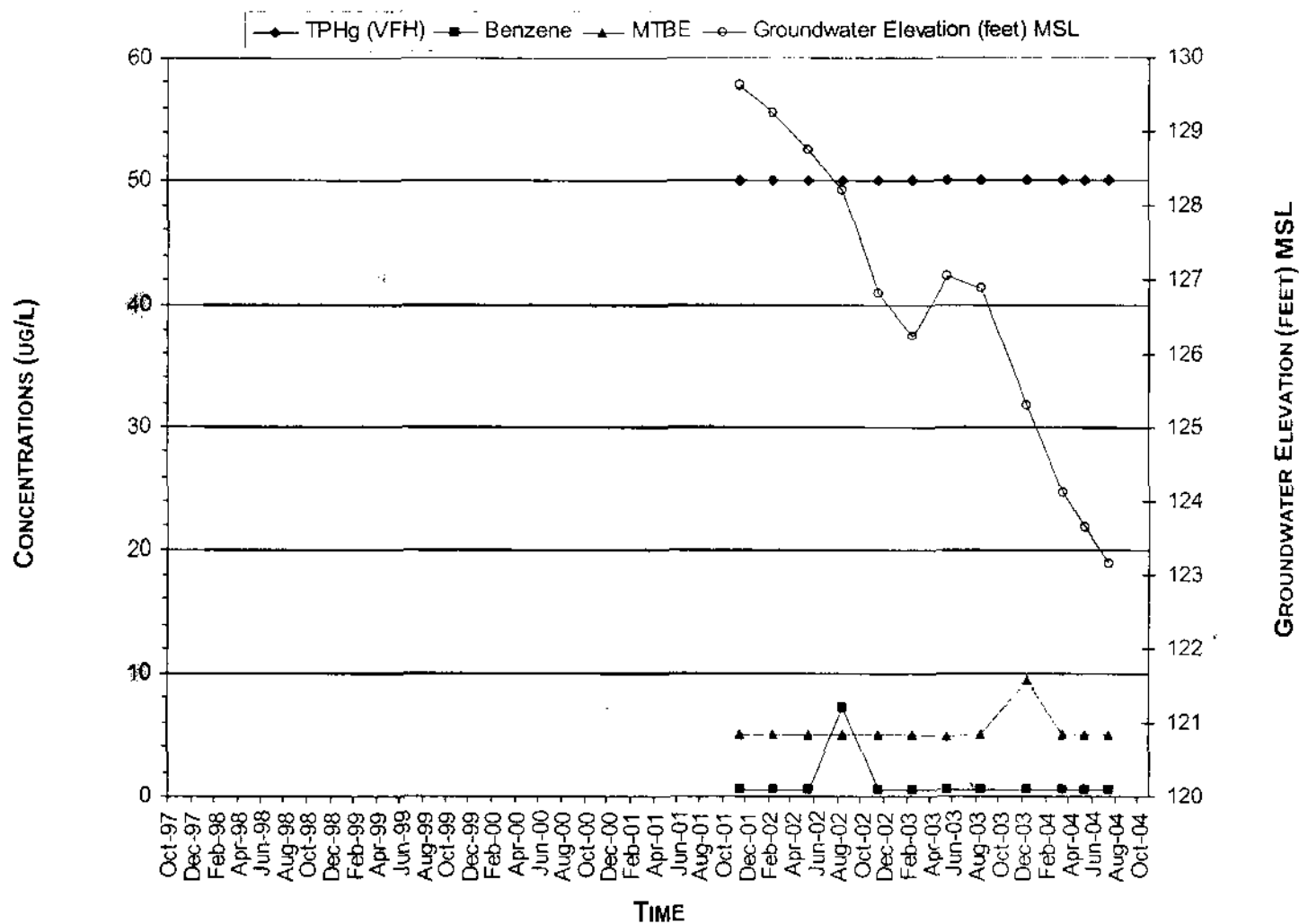


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Scale	N/A
Engr./Geol.	CM
Drafted By	BFM
Date	October 2004

Figure No. 19

MONITORING WELL W-12



HYDROCARBON CONCENTRATIONS IN GROUNDWATER VS TIME

G&M Oil Company, Inc.
Service Station No. 16
12559 Lambert Road
Whittier, California

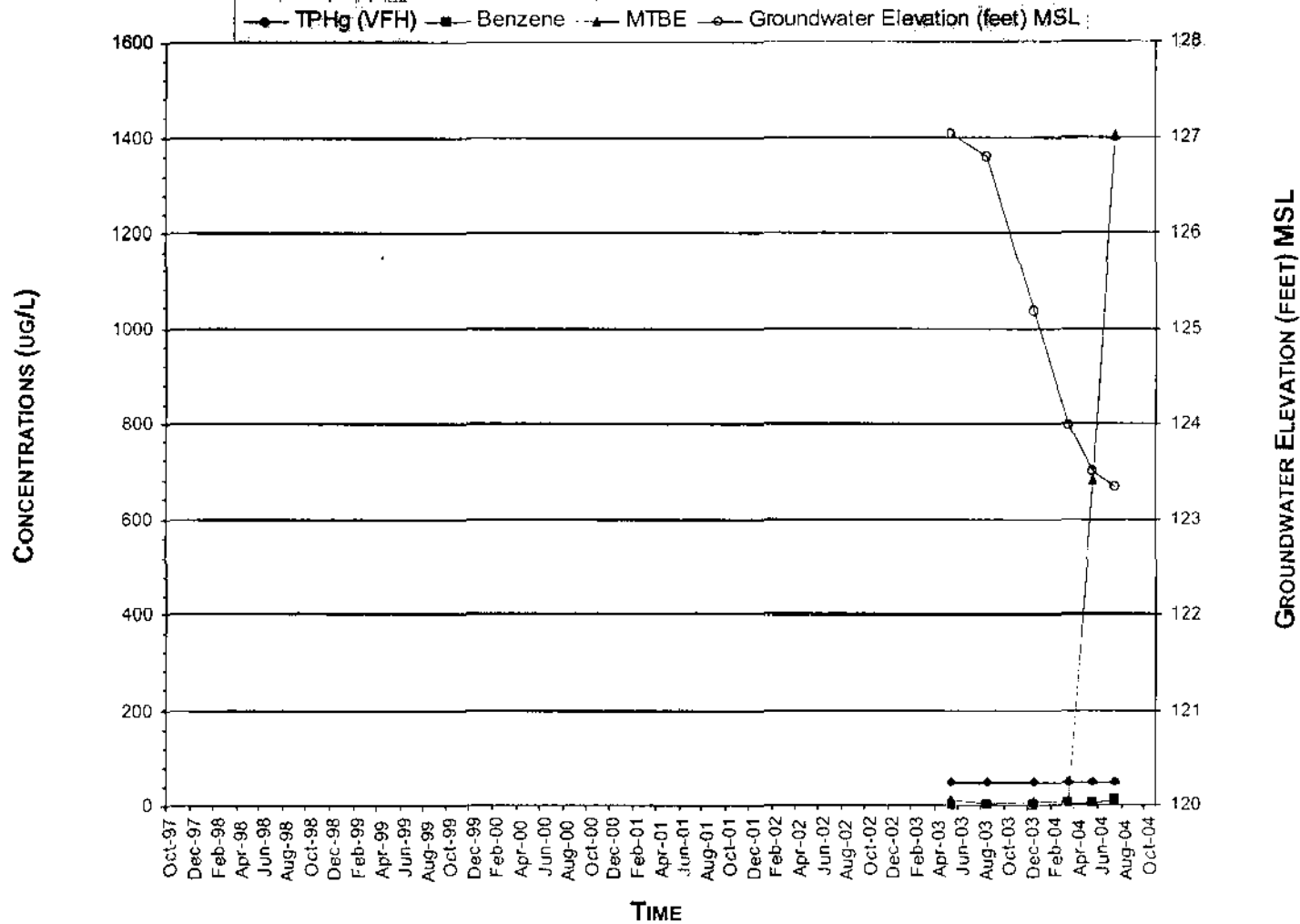


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Scale	N/A
Engr./Geol.	CM
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Date	October 2004

Figure No. 20

MONITORING WELL MW-13



HYDROCARBON CONCENTRATIONS IN GROUNDWATER VS TIME

G&M Oil Company, Inc.
Service Station No. 16
12559 Lambert Road
Whittier, California

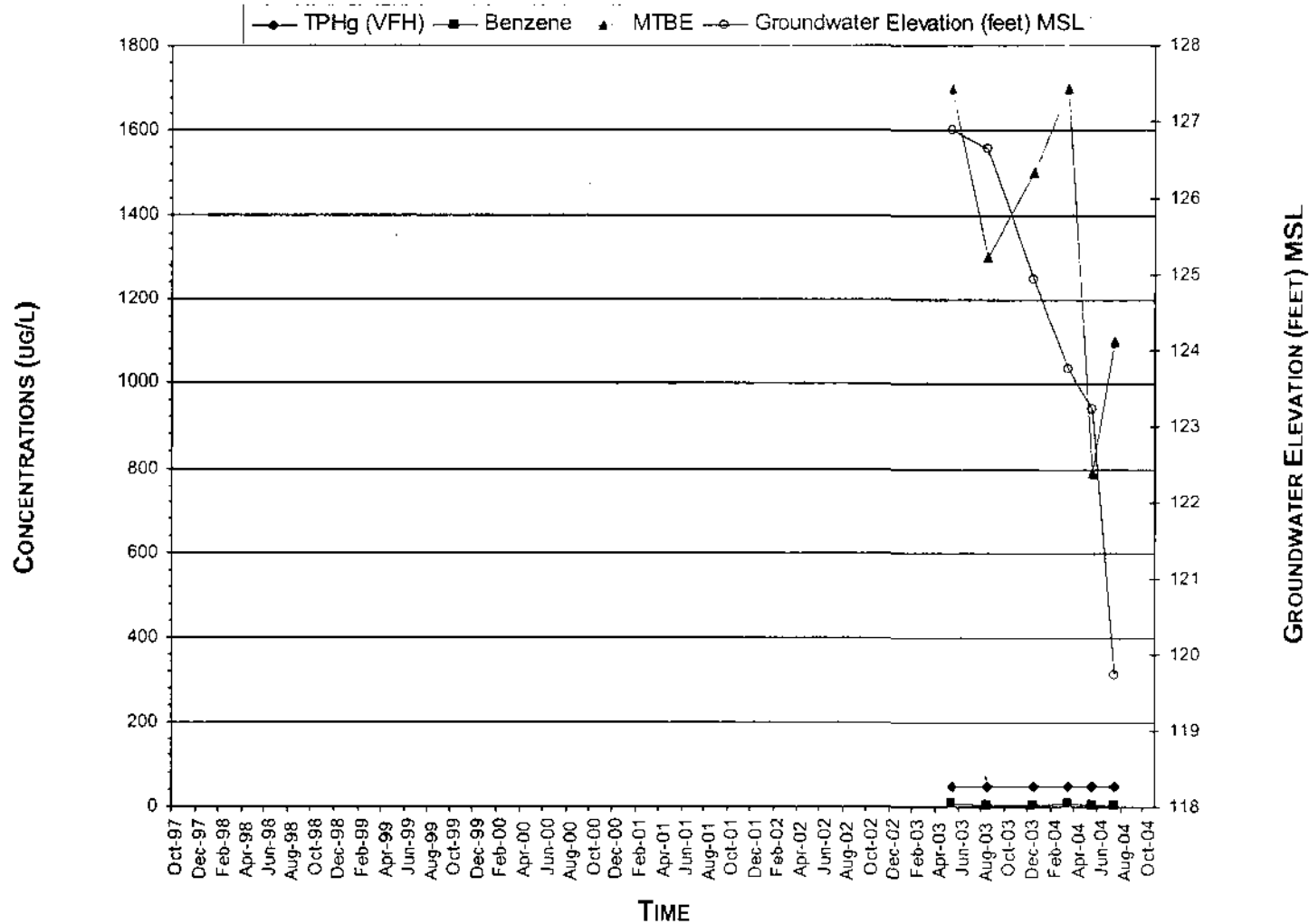


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Project No.	600143002
Scale	N/A
Engr./Geol.	CM
Drafted By	BEM
Date	October 2004

Figure No. 21

MONITORING WELL MW-14



HYDROCARBON CONCENTRATIONS IN GROUNDWATER VS TIME

G&M Oil Company, Inc.
Service Station No. 16
12559 Lambert Road
Whittier, California



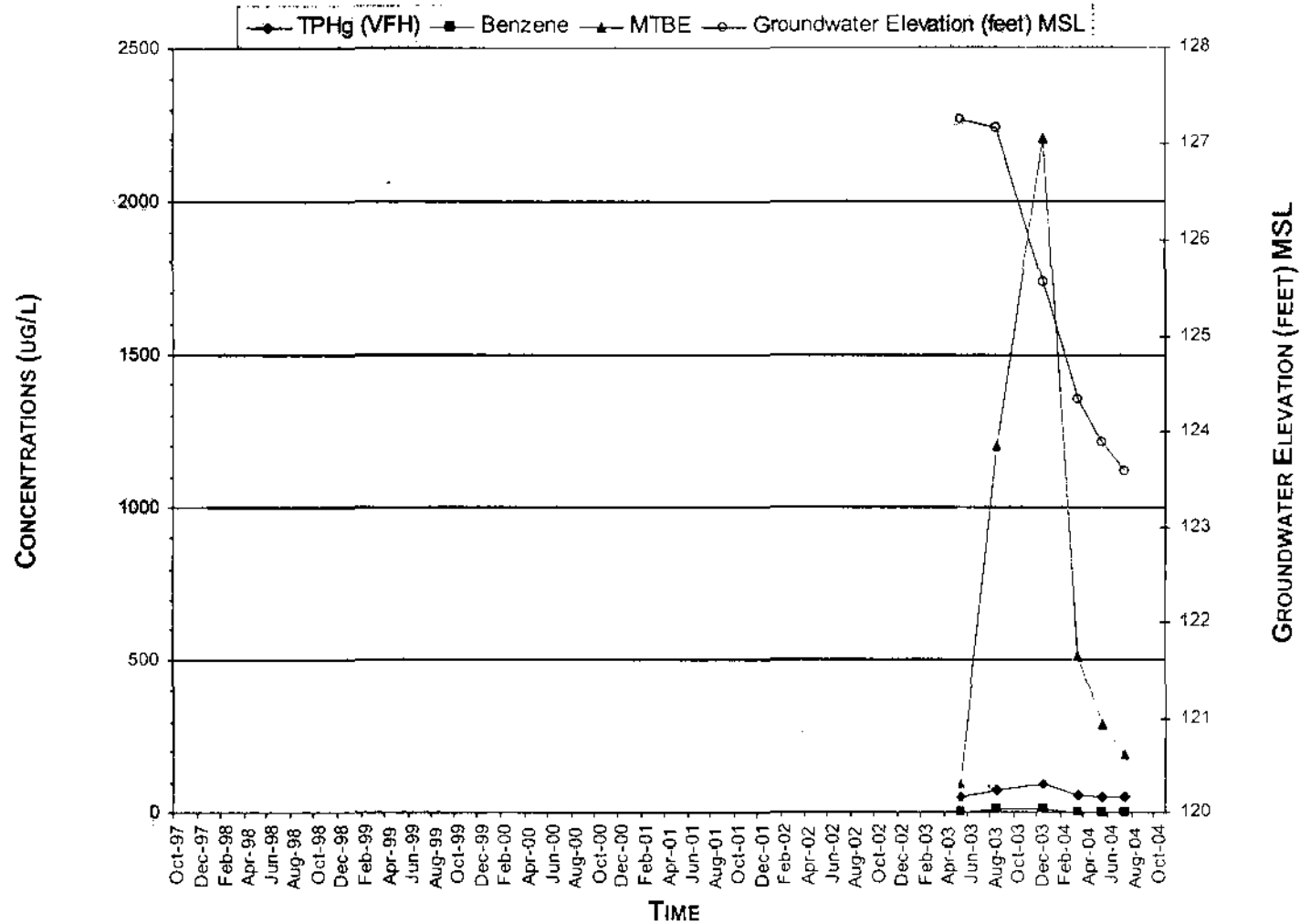
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Project No.	600143002
Scale	N/A
Engr./Geol.	CM
Drafted By	BFM
Date	October 2004

Figure No. 22

MONITORING WELL MW-15



HYDROCARBON CONCENTRATIONS IN GROUNDWATER VS TIME

G&M Oil Company, Inc.
 Service Station No. 16
 12559 Lambert Road
 Whittier, California



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Project No.
 Scale
 Engr./Geol.
 Drafted By
 Date

600143002

N/A

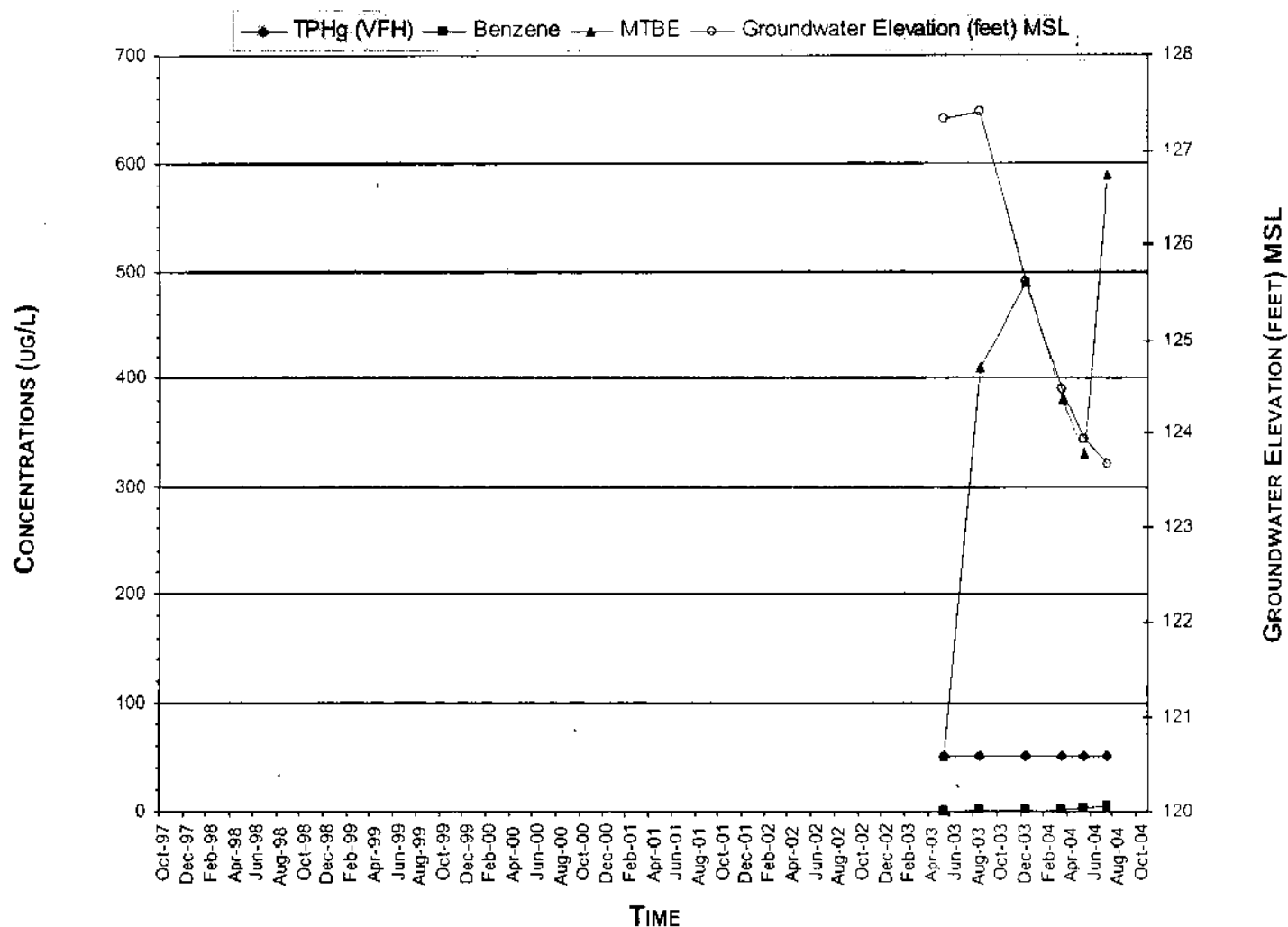
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Figure No. 23

MONITORING WELL MW-16



HYDROCARBON CONCENTRATIONS IN GROUNDWATER VS TIME

G&M Oil Company, Inc.
Service Station No. 16
12559 Lambert Road
Whittier, California



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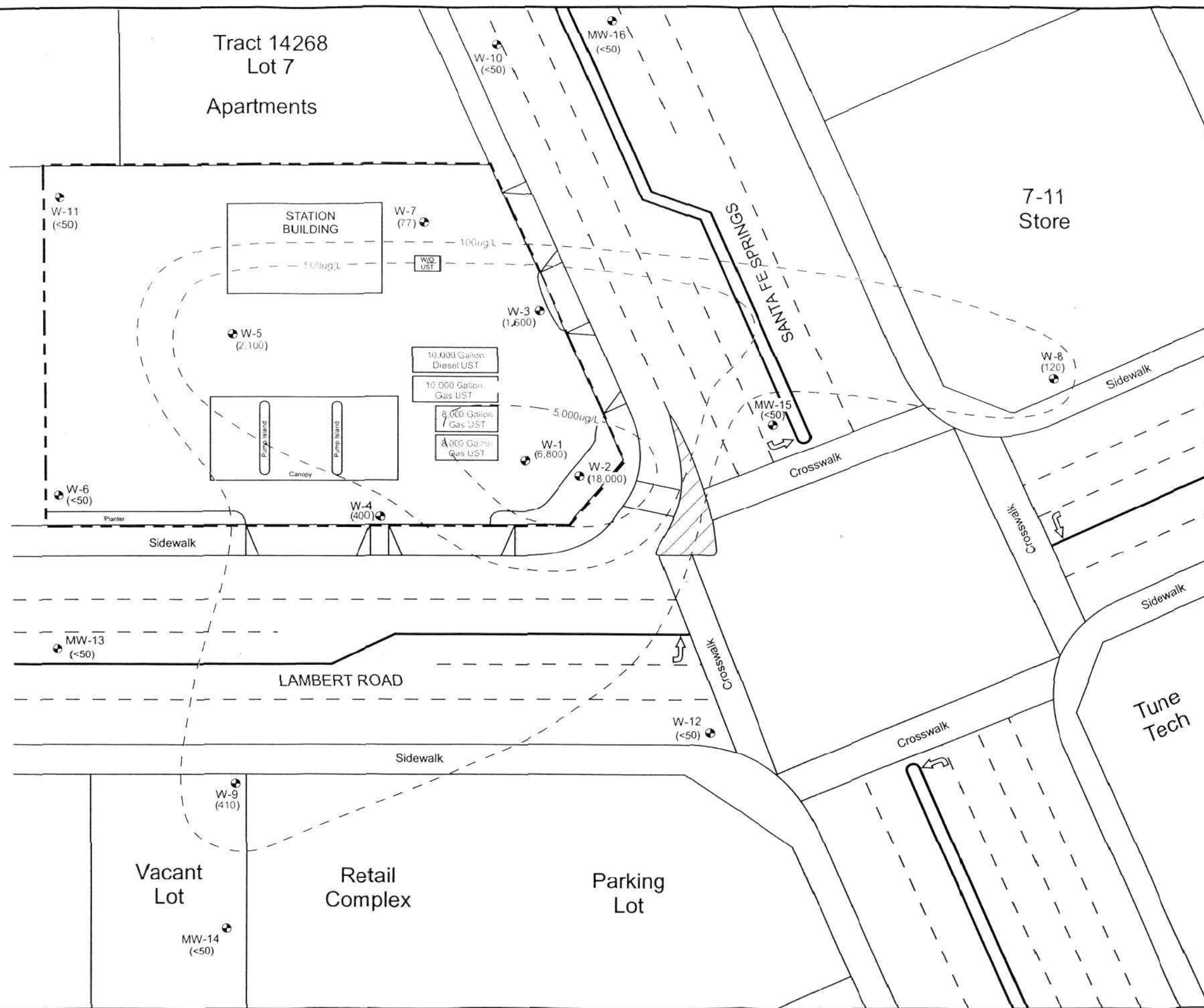
N/A

CM

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Figure No. 24



LEGEND

- Groundwater Monitoring Well
- UST Underground Storage Tank
- W/O Former Waste Oil UST
- (18,000) Total Petroleum Hydrocarbon as gasoline (TPHg), concentrations in ug/L. Laboratories refers to TPHs as VFHs.
- TPHg Iso-Concentration Contour

0 15 30 60
Scale in Feet



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Project No.	600143002
Approx. Scale	1" = 30'
Engr./Geol.	CM
Drafted By	BFM
Date	October 2004

EXTENT OF VFHs IN GROUNDWATER



G&M OIL COMPANY, INC.
SERVICE STATION #16
12559 Lambert Road
Whittier, California

Figure No. 25

Tract 14268
Lot 7
Apartments

7-11
Store

LEGEND

-  Groundwater Monitoring Well
- UST Underground Storage Tank
- W/O Former Waste Oil UST
-  Benzene Iso-Concentration Contour
- (4,900) Benzene, concentrations in ug/L

0 15 30 60
Scale in Feet



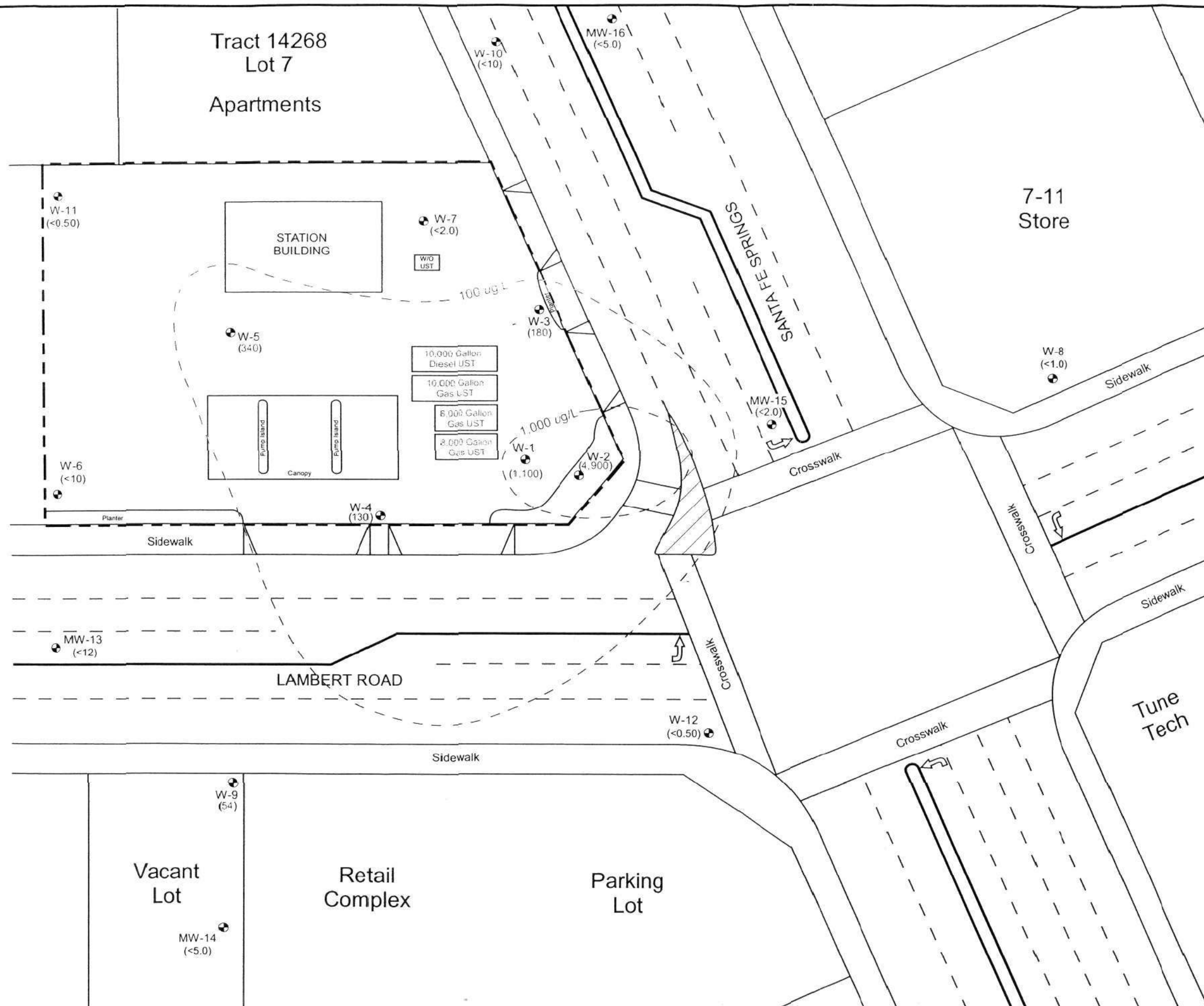
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Project No.	600143002
Approx. Scale	1" = 30'
Engr./Geol.	CM
Drafted By	BFM
Date	October 2004

EXTENT OF BENZENE IN GROUNDWATER

G&M Oil COMPANY, INC.
SERVICE STATION #16
12559 Lambert Road
Whittier, California

Figure No. 26

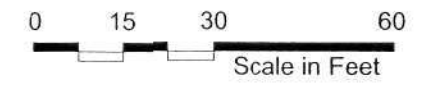


Tract 14268
Lot 7
Apartments

7-11
Store

LEGEND

- Groundwater Monitoring Well
- UST Underground Storage Tank
- W/O Former Waste Oil UST
- MTBE Iso-Concentration Contour
- (11,000) Methyl Tertiary Butyl Ether, concentrations in ug/L
- Inferred MTBE Iso-Concentration Contour



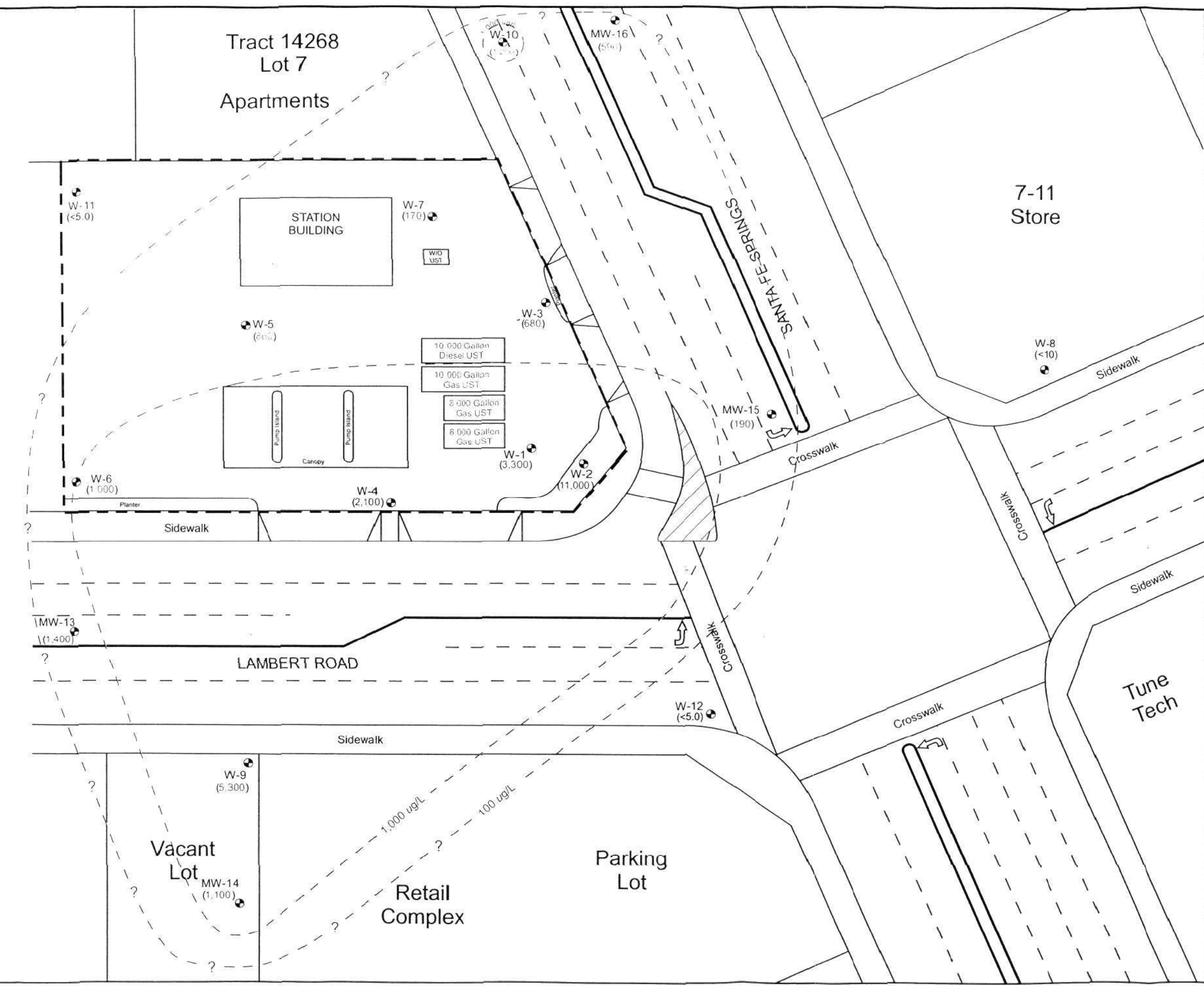
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Approx. Scale	1" = 30'
Engr./Geol.	CM
Drafted By	BFM
Date	October 2004

EXTENT OF MTBE IN GROUNDWATER

G&M OIL COMPANY, INC.
SERVICE STATION #16
12559 Lambert Road
Whittier, California

Figure No. 27



Tract 14268
Lot 7
Apartments

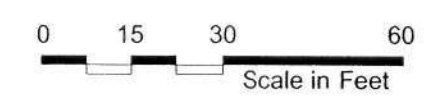
7-11
Store

LEGEND

- Groundwater Monitoring Well
- UST Underground Storage Tank
- W/O Former Waste Oil UST
- VFH Iso-Concentration Contour, 5,000 ug/L
- VFH Iso-Concentration Contour, 500 ug/L

- Sampling Event of December 2001
- Sampling Event of December 2002
- Sampling Event of January 2004
- Sampling Event of July 2004

All contours are approximate

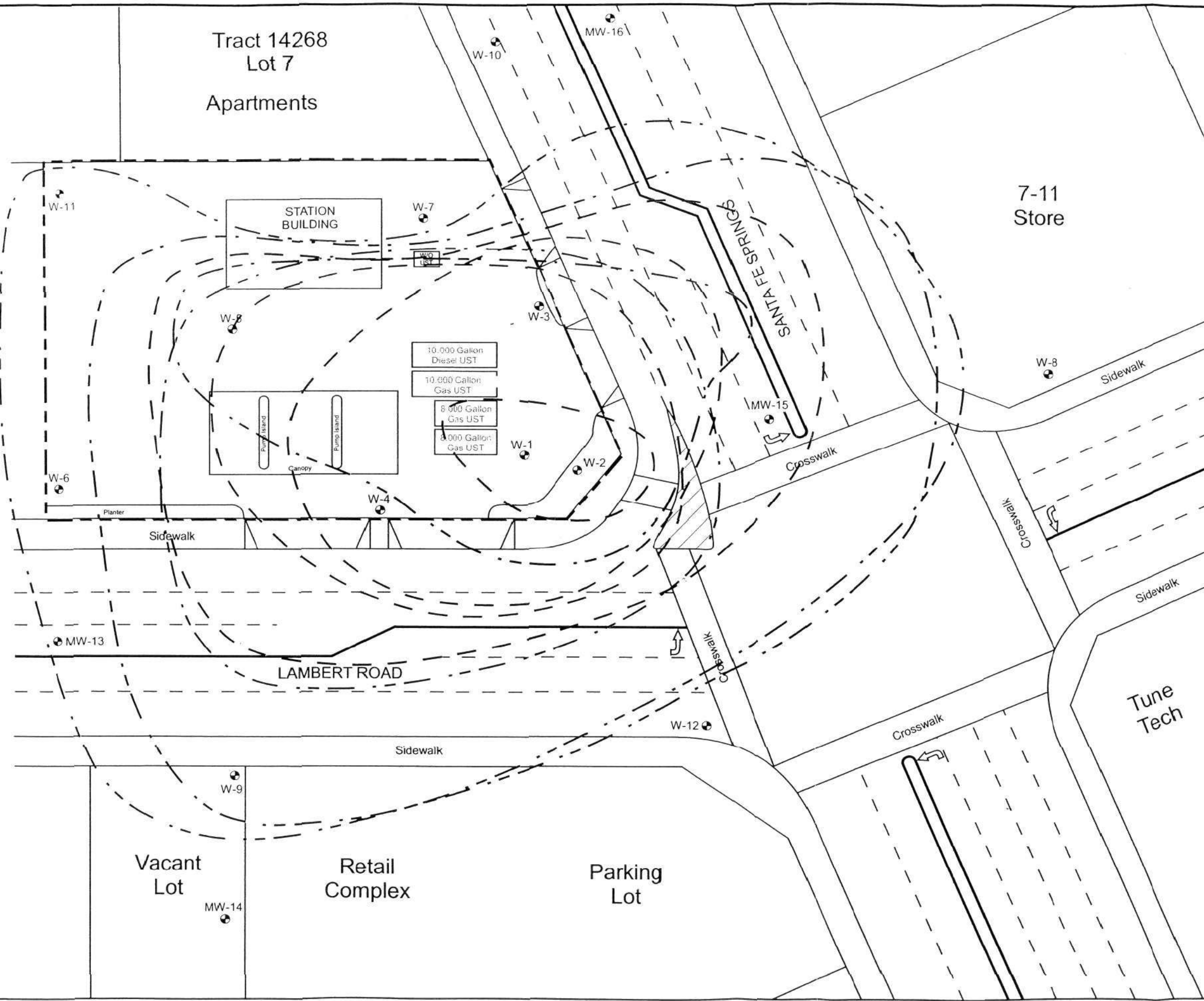


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Project No.	600143002
Approx. Scale	1" = 30'
Engr./Geol.	KAS
Drafted By	BFM
Date	October 2004

VFH ISO-CONCENTRATION MAP








2001-2004
G&M OIL COMPANY, INC.
SERVICE STATION #16
12559 Lambert Road
Whittier, California
Figure No. 28



Tract 14268
Lot 7
Apartments

7-11
Store

LEGEND

-  Groundwater Monitoring Well
- UST Underground Storage Tank
- W/O Former Waste Oil UST
-  Benzene Iso-Concentration Contour, 1,000 ug/L
-  Benzene Iso-Concentration Contour, 100 ug/L
-  Sampling Event of December 2001
-  Sampling Event of December 2002
-  Sampling Event of January 2004
-  Sampling Event of July 2004

All contours are approximate

0 15 30 60
Scale in Feet

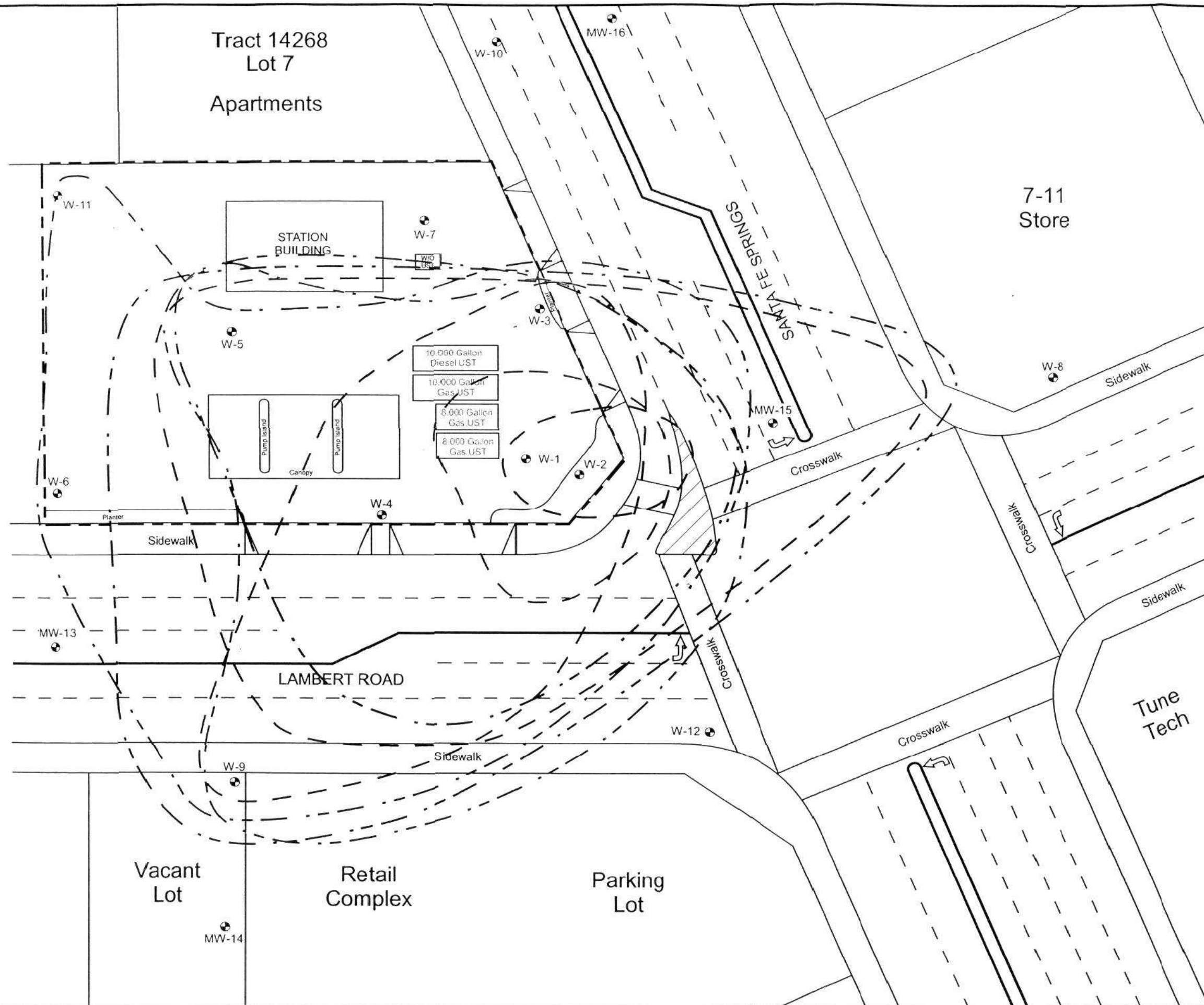


Leighton Consulting, Inc.
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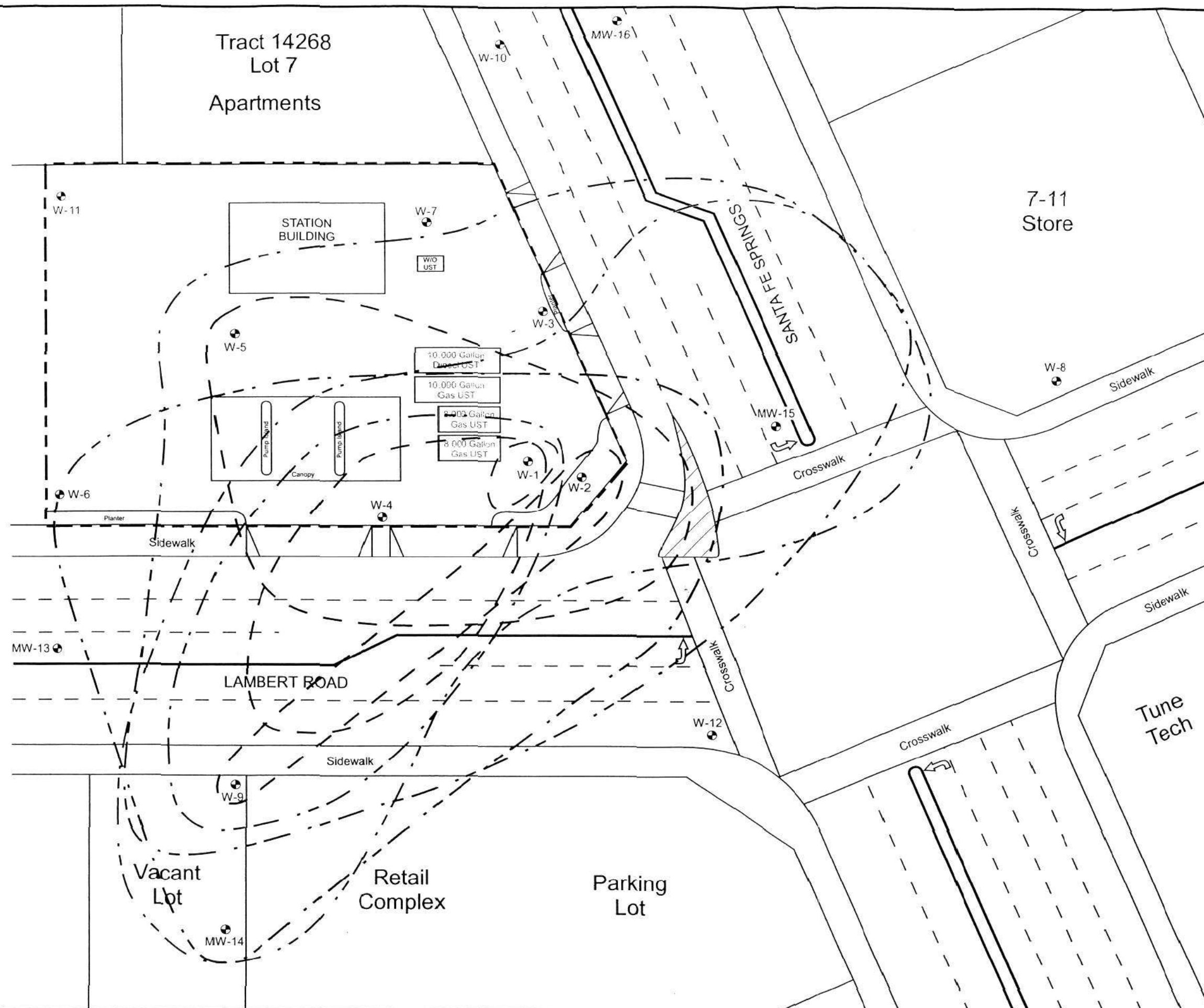
Project No.	600143002
Approx. Scale	1" = 30'
Engr./Geol.	KAS
Drafted By	BFM
Date	October 2004

BENZENE ISO-CONCENTRATION MAP

2001-2004
G&M Oil COMPANY, INC.
SERVICE STATION #16
12559 Lambert Road
Whittier, California
Figure No. 29



Tract 14268
Lot 7
Apartments



LEGEND

- Groundwater Monitoring Well
- UST Underground Storage Tank
- W/O Former Waste Oil UST
- MTBE Iso-Concentration Contour, 5,000 ug/L
- MTBE Iso-Concentration Contour, 1,000 ug/L
- Sampling Event of April 2002
- Sampling Event of December 2002
- Sampling Event of January 2004
- Sampling Event of July 2004

All contours are approximate

0 15 30 60
Scale in Feet



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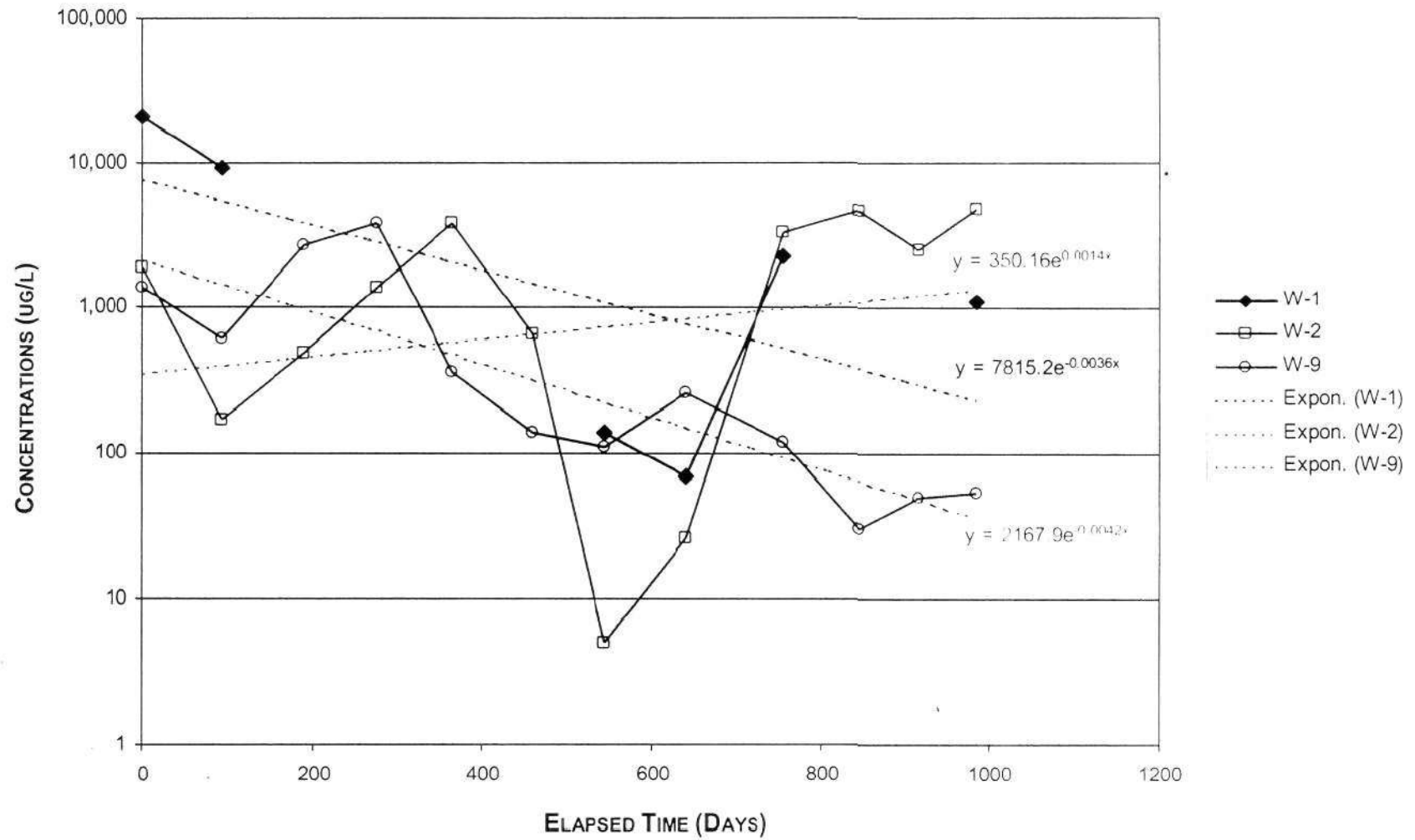
Project No.	600143002
Approx. Scale	1" = 30'
Engr./Geol.	KAS
Drafted By	BFM
Date	October 2004

MTBE ISO-CONCENTRATION MAP

2002-2004
G&M OIL COMPANY, INC.
SERVICE STATION #16
12559 Lambert Road
Whittier, California

Figure No. 30

BENZENE CONCENTRATIONS IN W-1, W-2, AND W-9



BENZENE CONCENTRATIONS IN W-1, W-2, AND W-9

G&M Oil Company, Inc.
Service Station No. 16
12559 Lambert Road
Whittier, California

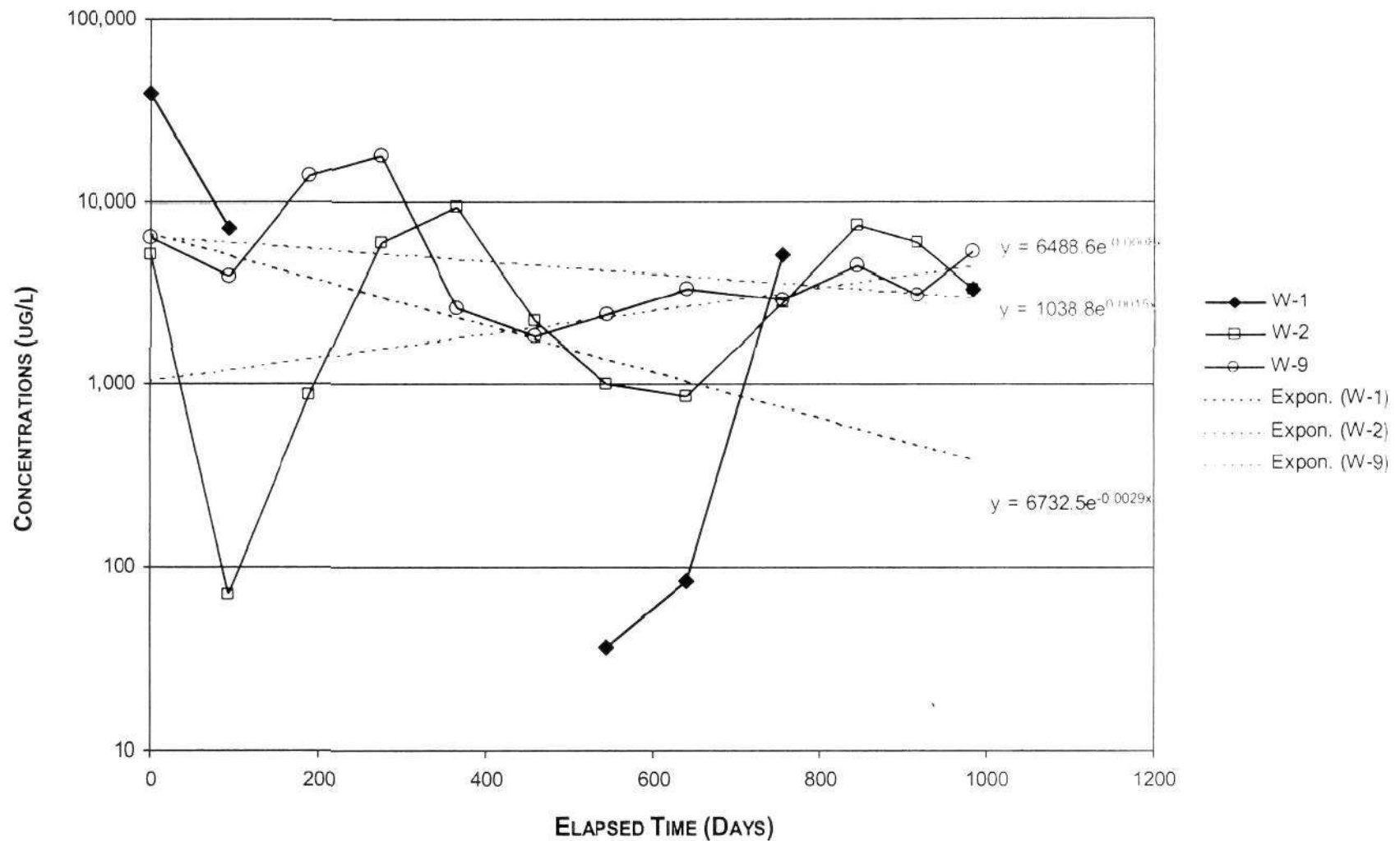


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Project No.	600143002
Scale	N/A
Engr./Geol.	KAS
Drafted By	BFM
Date	October 2004

Figure No. 31

MTBE CONCENTRATIONS IN W-1, W-2, AND W-9



MTBE CONCENTRATIONS IN W-1, W-2, AND W-9

G&M Oil Company, Inc.
Service Station No. 16
12559 Lambert Road
Whittier, California

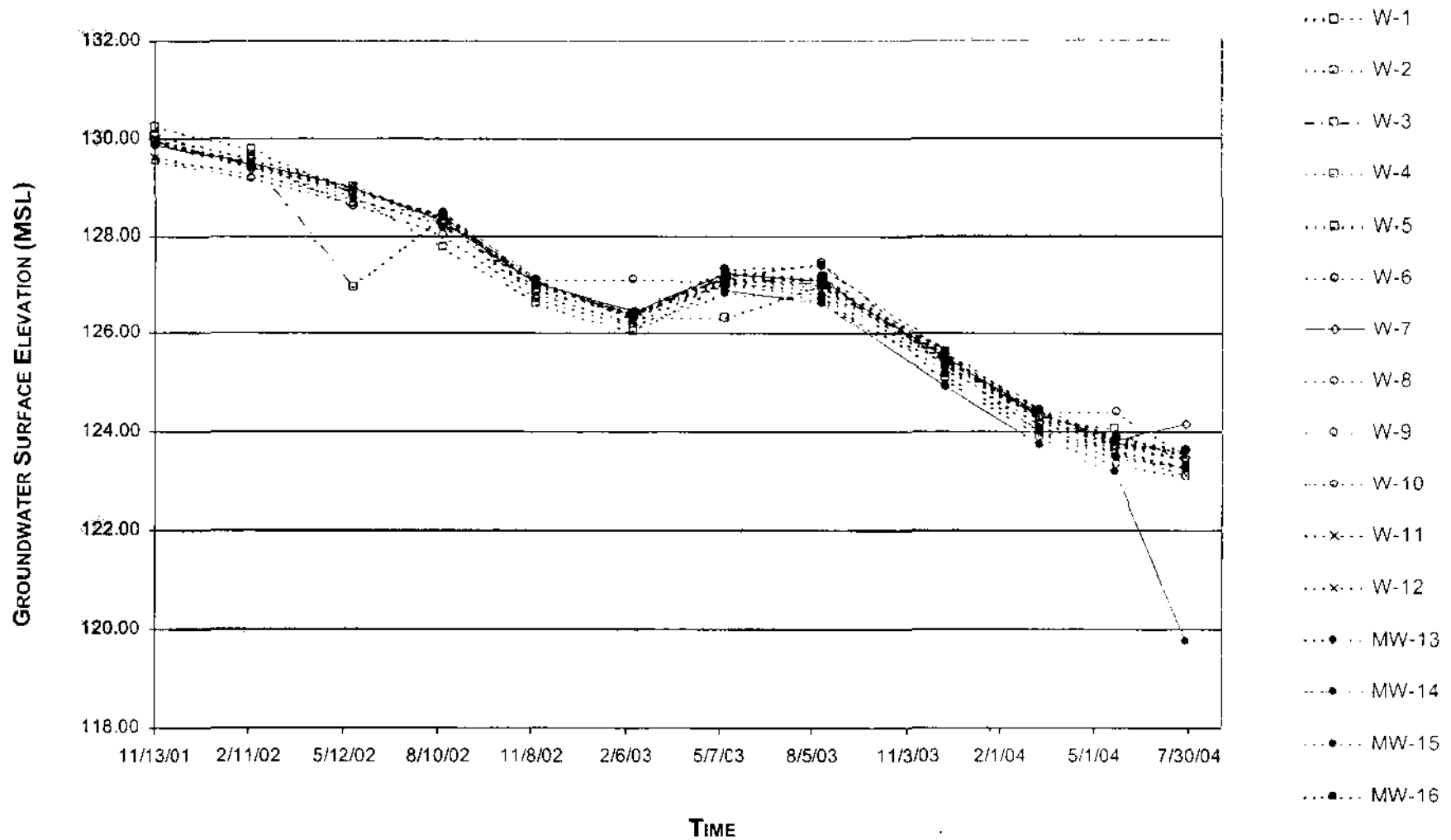


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Project No.	600143002
Scale	N/A
Engr./Geol.	CM
Drafted By	BFM
Date	October 2004

Figure No. 32

GROUNDWATER SURFACE ELEVATIONS OVER TIME

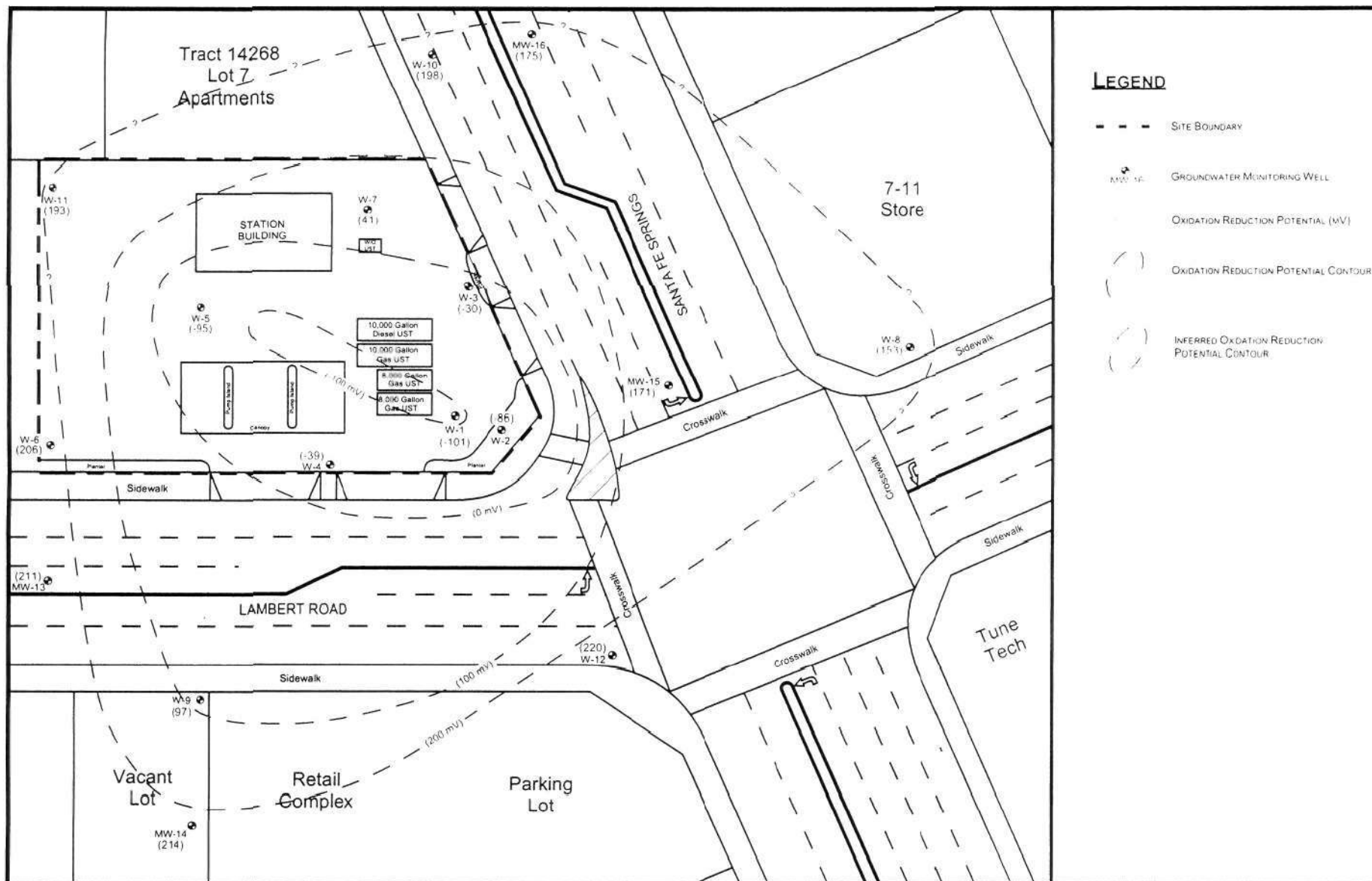


**GROUNDWATER SURFACE ELEVATIONS
OVER TIME**
G&M Oil Company, Inc.
Service Station No. 16
12559 Lambert Road
Whittier, California


Leighton Consulting, Inc.
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Project No. 600143002
Scale N/A
Engr./Geol. CM
Drafted By BFM
Date October 2004

Figure No. 33



LEGEND

- - - SITE BOUNDARY
- W-1 W-16 GROUNDWATER MONITORING WELL
- - - OXIDATION REDUCTION POTENTIAL (mV)
- () OXIDATION REDUCTION POTENTIAL CONTOUR
- () INFERRED OXIDATION REDUCTION POTENTIAL CONTOUR

OXIDATION REDUCTION POTENTIAL IN GROUNDWATER

G&M Oil Company, Inc.
Service Station No. 16
12559 Lambert Road
Whittier, California



Leighton Consulting, Inc.

A LEIGHTON GROUP COMPANY

Project No.
Scale
Engr./Geol.
Drafted By
Date

600143002

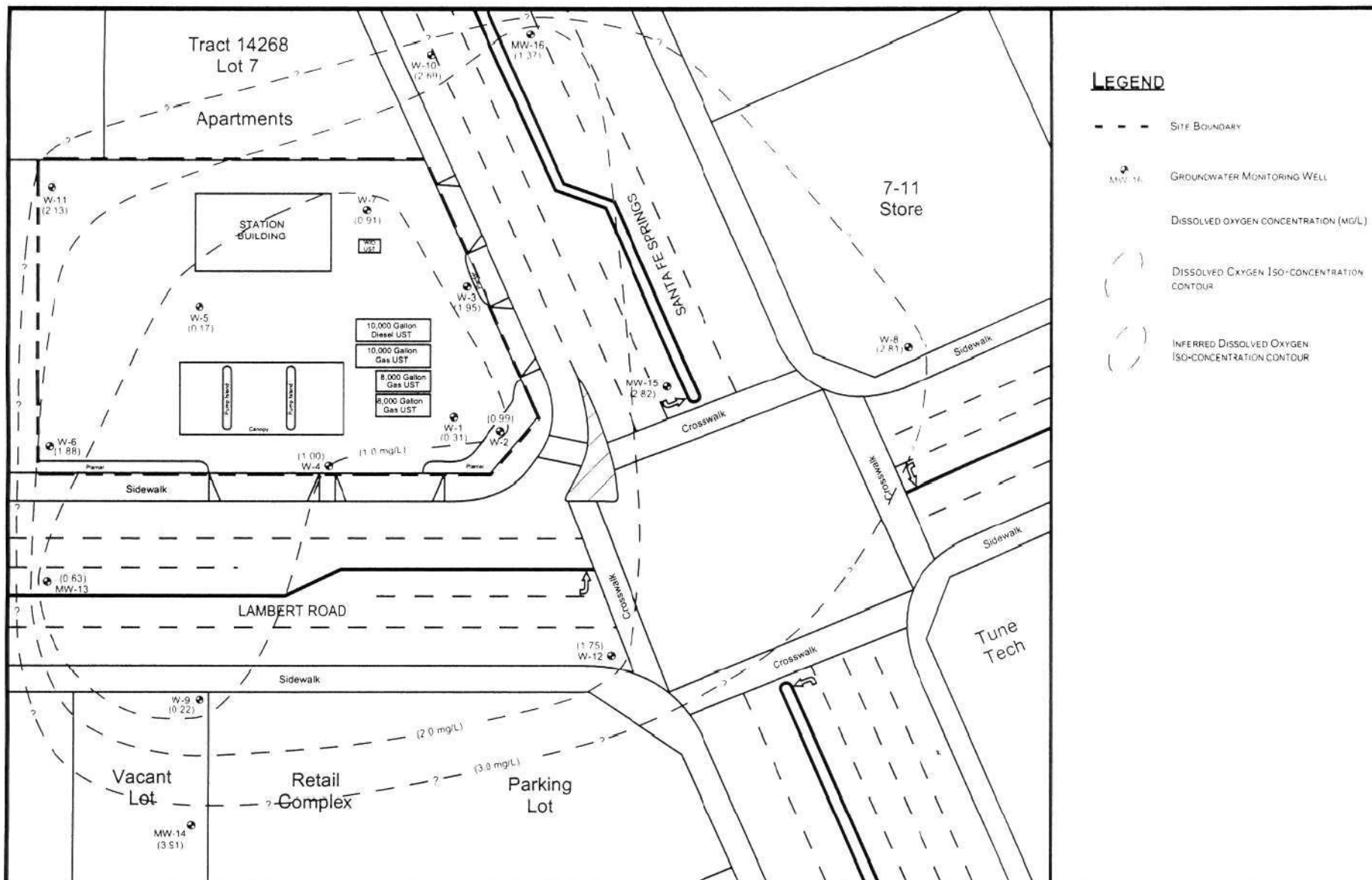
1" = 50'

CM

BFM

October 2004

Figure No. 34



DISSOLVED OXYGEN CONCENTRATIONS

IN GROUNDWATER

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Service Station No. 16
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Whittier, California



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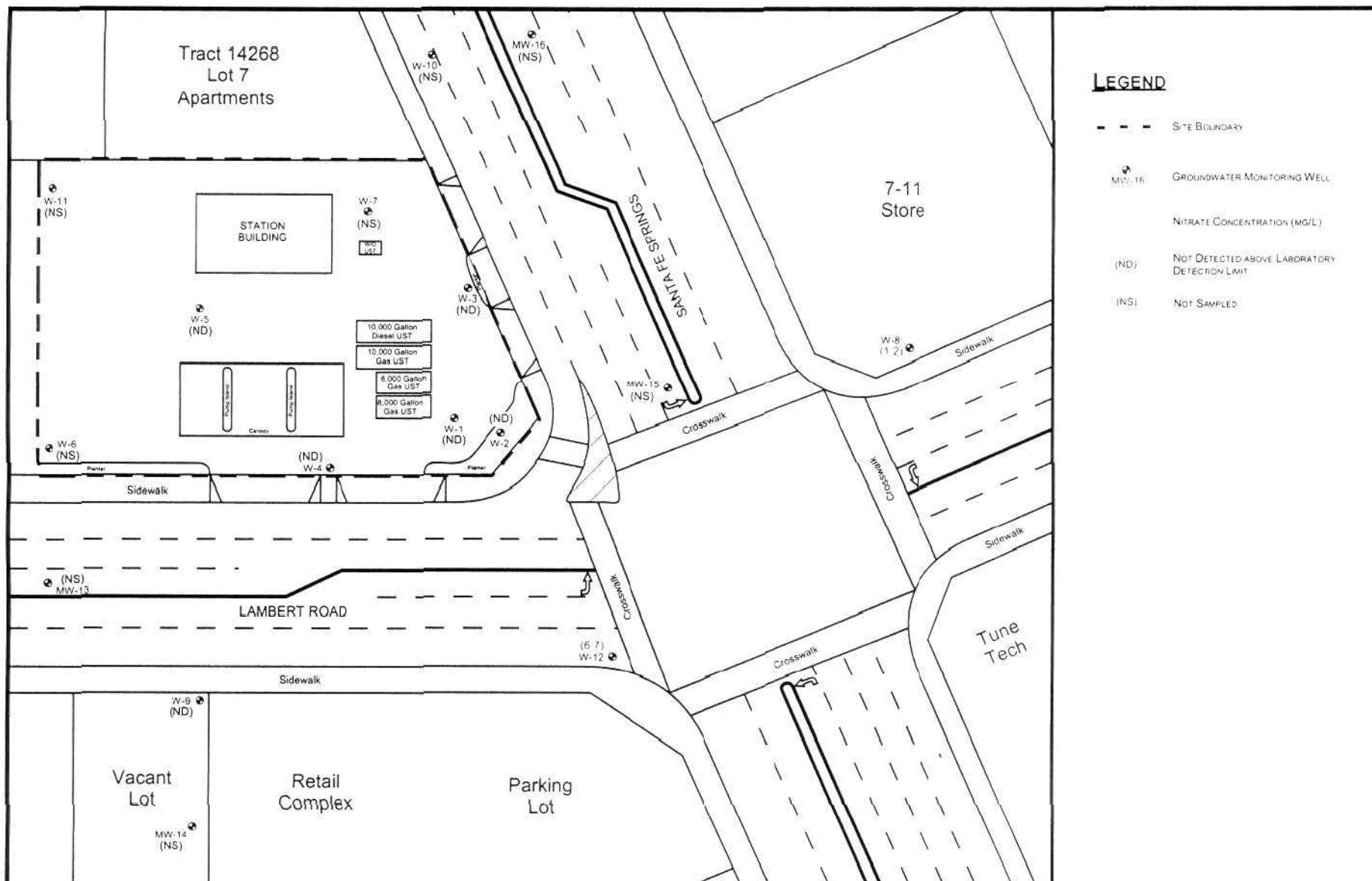
1" = 50'

CM

BFM

October 2004

Figure No. 35



NITRATE CONCENTRATIONS IN GROUNDWATER

G&M Oil Company, Inc.
Service Station No. 16
12559 Lambert Road
Whittier, California

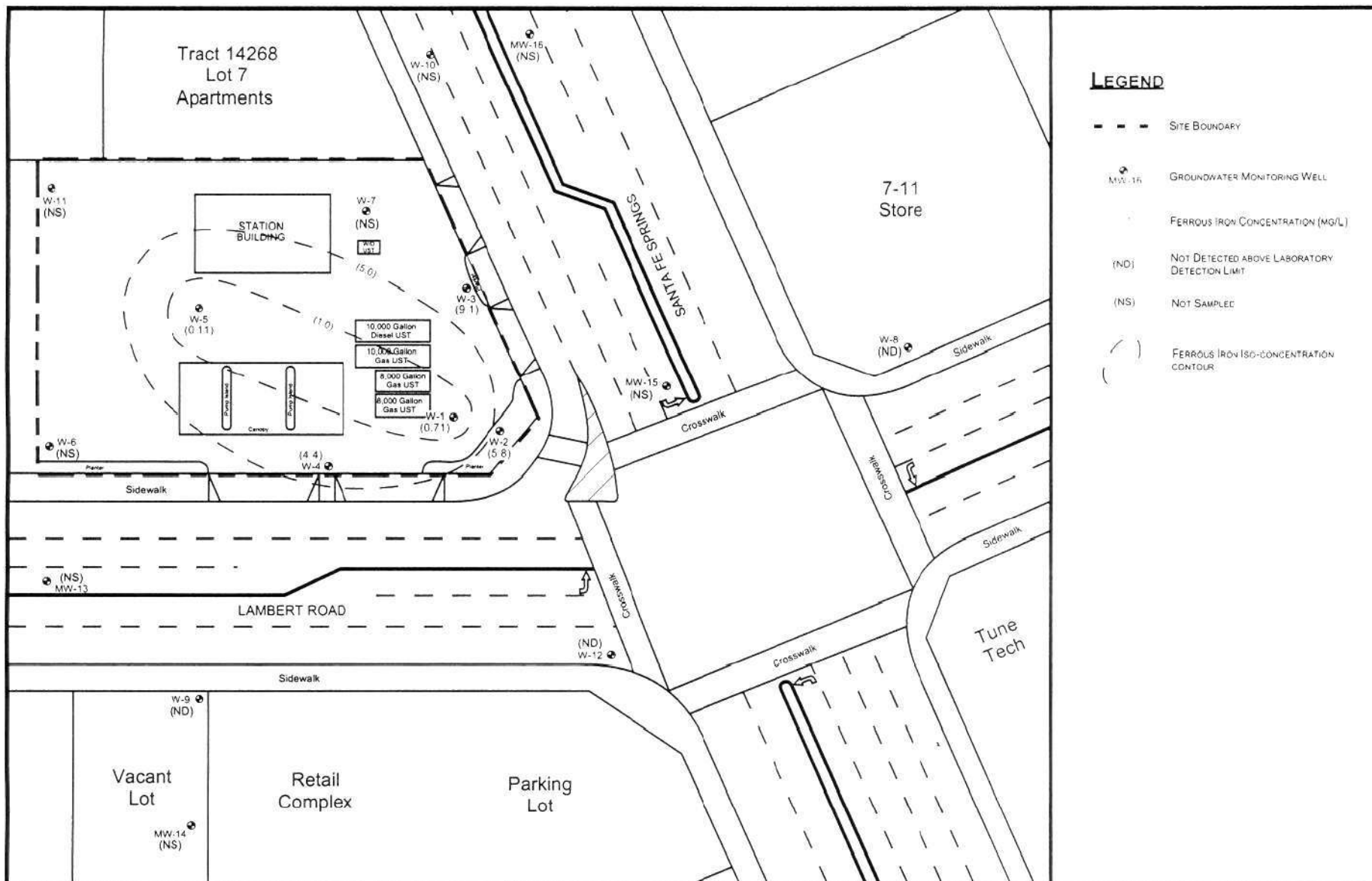


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Date

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1" = 50'
CM
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Figure No. 36



LEGEND

- - - SITE BOUNDARY
- MW-16 GROUNDWATER MONITORING WELL
- FERROUS IRON CONCENTRATION (MG/L)
- (ND) NOT DETECTED ABOVE LABORATORY DETECTION LIMIT
- (NS) NOT SAMPLED
- () FERROUS IRON ISO-CONCENTRATION CONTOUR

FERROUS IRON CONCENTRATION MAP

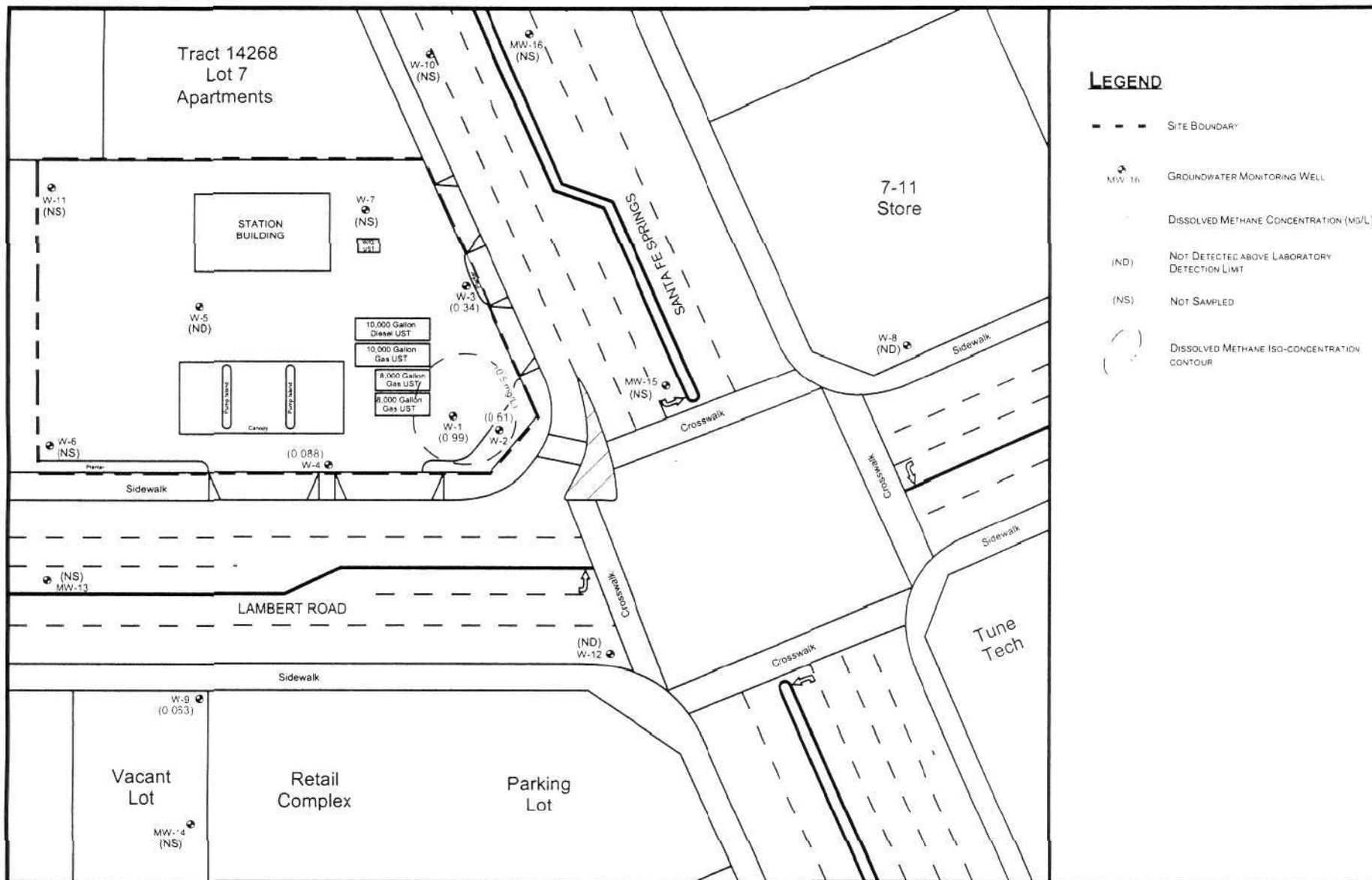
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Project No.	600143002
Scale	1" = 50'
Engr./Geol.	CM
Drafted By	BFM
Date	October 2004

Figure No. 37



LEGEND

- SITE BOUNDARY
- MW 16 GROUNDWATER MONITORING WELL
- DISSOLVED METHANE CONCENTRATION (MG/L)
- (ND) NOT DETECTED ABOVE LABORATORY DETECTION LIMIT
- (NS) NOT SAMPLED
- DISSOLVED METHANE ISO-CONCENTRATION CONTOUR

DISSOLVED METHANE CONCENTRATIONS IN GROUNDWATER

G&M Oil Company, Inc.
Service Station No. 16
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1" = 50'

CM

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Figure No. 39